# INDUSTRIAL EQUIPMENT NEWS

SEPTEMBER-1950
VOL 15 • NO 9

The Original IEN — FOUNDED 1931

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

*What's New* IN EQUIPMENT, PARTS, MATERIALS

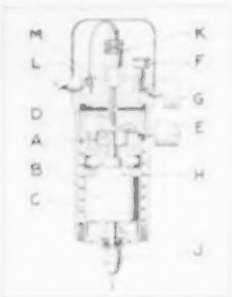
AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

Product Information for specifiers and buyers in all industries


BRIEFLY—Identify by IEN-8122 (if you write the maker)

## DRILLING . . Motor driven head with air feed for holes to .180 inch

Source: DUMORE CO.
1251 Fourteenth St., Racine, Wis.




**Air pressure** developed by a small rotary compressor A on the upper shaft extension of the motor B in this new drill head provides the feed effort to move the spring locked piston assembly C containing motor and compressor forward in the head housing. The compressor delivers to the compression chamber D above the piston as soon as the motor starts rotating. Delivery is controlled at the adjustable intake E for drills of given sizes and is limited by the adjustment at F. The pressure reading shows on a gage at G.

**Forward movement** against the action of the spring H advances the drill chuck J through a variable distance between $\frac{1}{8}$ and $1\frac{1}{8}$ in. as determined by a stop-nut adjustment at K. Current is connected to the motor at L and the operating circuit is opened and closed at the control lever M. The assembly includes a threaded exhaust port to which a flexible tube can be connected to blow chips away.

**Speed** is controlled between 2,500 and 7,500 rpm. by adjusting the air movements at E and F. Pressure required in the feed cylinder and read on the gage is $2\frac{1}{2}$ lb. for a No. 80 or .0135-in. drill in mild steel. It is 6 lb. for a $\frac{1}{8}$-in. drill. Operation employs a foot switch for work where chip clogging is likely to occur. Release of this switch at any time during a cycle permits the spring to retract the drill for a fresh start.

**The motor** operates on 110-volt 50/60-cycle ac. Overall dimensions are about $4\frac{1}{8}$ in. in greatest diameter, 4 in. in body diameter, $14\frac{1}{4}$ in. in overall length including the chuck. Weight is $17\frac{1}{2}$ pounds. Either of two mounting brackets is available. List price is about $330.

BRIEFLY—Identify by IEN-8123 (if you write the maker)

## VISE . . Quick acting design, plain or swivel base, has 4 in. jaws

Source: DODGE MFG. CORP.
500 S. William St., Mishawaka, Ind.

**Slide Set** trade names new 4-in. machinist's vise in which the movable jaw is closed in on a piece of work or is withdrawn from it by push and pull movement. The handle-operated screw is rotated through not more than $1\frac{1}{8}$ turns to grip the work or release it. The vise is made in the one 4-in. jaw size. It weighs 58 lb. and is available on a plain or swivel base. Parts are made of steel and semi-steel. Opening is to 6 inches. Throat measures $2\frac{1}{4}$ in. from the top of the jaws. Jaw height is $1\frac{1}{4}$ inches.

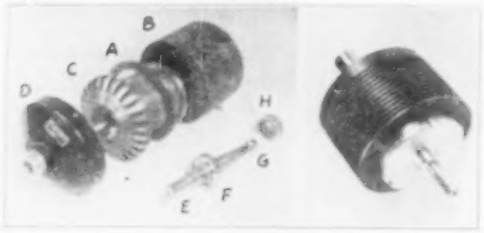
**The rectangular slide** that forms an integral part with the movable jaw encloses a pawl mounted to swivel and to provide limited longitudinal movement on a horizontal supporting pin. The pawl has shoulders in front of and behind a nut operated by the vise screw. Turning the screw clockwise moves nut and pawl toward the front, results in tipping the pawl downward to engage the stationary toothed rack forming part of the stationary jaw. Continuing movement in this direction closes the work. Reversing the rotation moves the nut and pawl to the rear, tipping the latter up so the movable jaw is free to slide and release the work.

YOUR HELP IS NEEDED
FOR THE COMMUNITY CHEST DRIVE

BRIEFLY—Identify by IEN-8124 (if you write the maker)

## DRIVE . . Magnetic clutch employs Alnico between pole elements

Source: DUNCAN & BAYLEY INC.
783-87 Hertel Ave., Buffalo 7, N. Y.




**Tension control**, machine tool drives, dynamometer applications, motor generator sets, thermostatically controlled fans and blowers are typical points for application of the compact new line of FM Hysteresis clutches and brakes. Three assemblies, available at present rate 16, 40 and 125 lb.-in. at torque, operate at 1,800 rpm. maximum speed, require control line currents of 10 and 25 watts.

**The first two** measure $2\frac{1}{2}$ by $3\frac{1}{8}$ in. in overall dimensions and weigh 2 pounds. The third and larger unit measures 4 by 7 in. and weighs $9\frac{1}{2}$ pounds. This larger assembly is shown disassembled to the left in the illustration. The smaller one is shown assembled at the right. Operating efficiency is 100 per cent. There is no viscous drag.

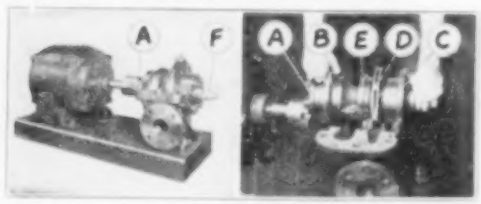
**The Alnico magnet** ring A rides in an air gap between rings of multi-pole poles integral with the iron alloy magnetic case B and the iron alloy pole element C on which the actuating coil is wound. Pole element and case are secured together on the hollow input shaft which extends from the right-hand side of the clutch but is not shown in the disassembled view. The Alnico ring is secured inside the flange of the aluminum rotor cup D which rides the output shaft E. This shaft has a ball bearing F for support in the pole element and C and a needle roller bearing G that applies to the hollow input shaft.

**The multi pole structures** on the two sides of the Alnico ring are of opposite polarity and the north poles of one structure are angularly displaced with respect to the south poles of the other structure. Neither set touches the ring which acts as the driven member of the clutch. Application of a magnetic field, by closing the control circuit through collector rings H that mount on the input shaft, polarizes the magnet material as its electron structure is in line with the flux path through the air gap between the poles. In this condition the electrons resist realignment as the ring is driven with the rotation of the poles. For given flux density the tractive effort produces a given value of no-slip torque.

BRIEFLY—Identify by IEN-8125 (if you write the maker)

## PUMP . . Motor driven centrifugal, internal parts are a replaceable unit

Source: DE LAVAL STEAM TURBINE CO.
851-5 Nottingham Way, Trenton 2, N. J.




**Unit replacement** of all of the internal parts of this new Typertia pump is submitted for repair of individual parts in service. The housing cover can be removed, the internal unit assembly lifted out and a new one put in its place so the pump can be returned quickly to service. The removed unit is shipped back to the company for replacement in a service and exchange plan that has been developed for this purpose. Three sizes in the line rate to 400 gpm. and to 2300 ft. head.

**The assembled unit** includes the driven half of the motor coupling A, the shaft, two ball bearings assembled in bearing housings B and C, the impeller D, the thrust ring E and two spring-backed shaft seals. An end cap F covers the shaft end that is not fitted with the coupling. The bearing housings and the thrust ring fit into the pump housing, the housings bolting into position and the ring registering in a slot and holding against rotation by a pin.

**The bearings** are permanently lubricated. The shaft is made of stainless steel. The pump housing is cast iron. The impeller is bronze. It is shown in place and keyed to the shaft.

*50 Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 50*

## WHAT DO YOU NEED?

READER SERVICE FORM . . Look between pages 16 and 17 or 96 and 97 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

•

### From a Machine Tool Builder

Industrial Equipment News is designed, compiled and edited by men who have spent years in the machine tool industry. Our representatives are in touch with the manufacturers and distributors of the machine tool industry. We know what they want to be informed about and how to help with all their developments.

•

### Departments


READER SERVICE FORM — Pages 16-17 or 96-97
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NEW LITERATURE — Page 25
NEWS NOTES — Page 89
"I WISH I HAD" — Page 109


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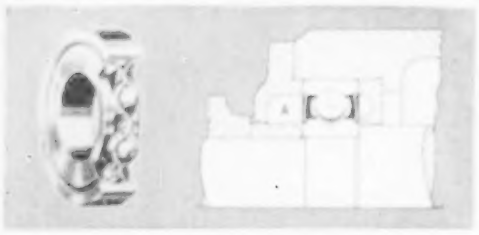
W. E. Smith, V. Pres. & Editor
F. Moore Smith, V. Pres. in Charge
THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N.Y.—LOngacre 3-1546


FILL IN AND SEND ALONG TO OTHERS INTERESTED IN PRODUCT INFORMATION

- ☐ Plant Operating Mr.
- ☐ Production Mr.
- ☐ Engineering Mr.
- ☐ Product Design Mr.
- ☐ Purchasing Mr.
- ☐

BREVITY—Identify by IEN - 8126 if you write the maker



## Long Time No See!

Most bearing users want bearings that will give thousands of dependable service without forcing over lubrication, adjustments, etc. Bearings that can be forgotten for long periods and no harm done.

For instance, take a standard width New Departure ball bearing, checked on both sides, sealed or to general so shown above. Fill space "A" full of the recommended grease and under anything like normal conditions that bearing will run sweet and smooth for years without attention of any kind. You can't over grease it. It's set underground, and if an electric motor for example it's good for any position from horizontal to vertical. Any New Departure representative will be glad to give you details.

**NEW DEPARTURE**
**BALL BEARINGS**

NEW DEPARTURE — Division of General Motors — Bristol, Connecticut

BREVITY—Identify by IEN - 8127 if you write the maker

**FREE! 32-PAGE HANDBOOK**
**SHOWS HOW TO STOP CONDENSATION DRIP**

NO Drip

Stops Drip from
- ✓ Cold water pipes
- ✓ Water filter tanks
- ✓ Metal or concrete ceilings
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- ✓ Condensers
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- ✓ Blower pipes
- ✓ Dust Collectors
- ✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

LOW COST — EASY TO APPLY

Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound. Insulate vibration of metal ducts or pipes.

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Send today for your copy of the NoDrip HANDBOOK which tells what this plastic-cork material can do for you. It's the modern solution to condensation drip problems.

Send for your Free Handbook Now!

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Exclusive Coatings Since 1896
Dept. IE, Kankakee, Ill.

BREVITY—Identify by IEN - 8128 if you write the maker

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- by a reduction of 25% to 50% in gauge without impairing structural values.

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Sales Offices in Principal Cities

BREVITY—Identify by IEN - 8129 if you write the maker

## PURCHASING GUIDE . . Available free to Industrial Equipment News Readers

Source: THOMAS PUBLISHING CO.
467 Eighth Ave., New York 1, N. Y.

Last call for a free copy

A few copies remain to be selected from the limited printing of Thomas' Register Jr. and are available to this "last call" to those of you who have not already requested a free copy. We will put your name on the list before all are alloted.

The book is a companion publication to Thomas' Register and carries 2,400 pages measuring 4 by 10 inches. It lists names, addresses and ratings of selected manufacturers under some 5000 product headings.

BREVITY—Identify by IEN - 8130 if you write the maker

## HANDLING . . Sling chain adjuster for unbalanced loads, prevents slipping

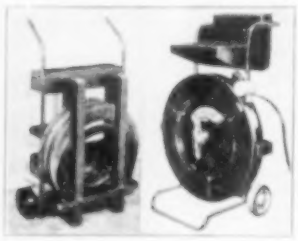
Source: AMERICAN CHAIN & CABLE CO.
927-31 Connecticut Ave., Bridgeport 2, Conn.

Pear shaped link and hatched socket make up a new sling chain adjuster with which correct position to balance and pick up a load can be secured and locked. The socket engages the chain, holds it against slipping. Four sizes take ½ to ¾-in chain which can be specified for length to a desired complete sling chain assembly. Smallest pear-shaped link measures 3 by 6 by 12 in. inside. Largest measures 6½ by 7 by 14 inches.

BREVITY—Identify by IEN - 8131 if you write the maker

## STRAPPING . . Portable dispensers for coils of steel strapping on the job

Source: SIGNODE STEEL STRAPPING CO.
2611 N. Western Ave., Chicago 47, Ill.



Two new units have been developed to carry and dispense steel strapping. One is for bulk binding use in freight cars and trucks in which the truck type design carries bails, nails, seals, staples, anchor plates. It centers two widths of strapping on rollers. The other, known as Straptroller, mounts a single coil of strapping and controls feed to the job. The strap is dispensed to one side so pull will not cause the truck to roll. Loading can be handled while the truck is tying flat.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 8132 if you write the maker

**JUST 7 INCHES HIGH**

THE DUFF-NORTON
**"Shorty" JACK**
LIFTS HEAVY LOADS IN LOW HEIGHTS

You can use this new "Shorty" Jack on just 7" high and straight back 12 lbs. yet it will heavy loads weighing up to 15 tons. Note the low height applications of lift on wheels, dies, equipment and machinery.

Write today for Bulletin AD-52-G

THE DUFF-NORTON MANUFACTURING CO.
Main Factory and General Offices: PITTSBURGH 10, PA. Canadian Plant: TORONTO, ONT.
*"The House that Jacks Built"*

BREVITY—Identify by IEN - 8133 if you write the maker

**Atlas 7" SHAPER**

Do you shaping job with a 7" Atlas? Do you know Atlas shaper is a money saver and money maker? It's so easy to set up, so inexpensive to operate and so dependably accurate that accurate equipment can match it for efficiency and economy?

If your production includes small parts, small tool housings or contouring can be cut on your Atlas 7" Shaper in your plant — you save time and costs, and maintenance is low.

For a wide work range — 15 to 190 strokes per minute, and cutting speeds of 10, 20, 110 fpm. Timken Tapered Roller Bearings, crank type rear drive, extra heavy construction, V belt drive, hold for cutting.

ATLAS PRESS CO.
Kalamazoo, Mich.

PATENTED PRECISION TOOLS FOR WOODWORKING AND METALWORKING

BREVITY—Identify by IEN - 8134 if you write the maker

*LOOKS right!*
Beautifully constructed of gleaming stainless steel. It looks and performs like a thoroughbred.

*WORKS right!*
Made stronger, lighter and safer and it will give you many years of trouble-free operation.

*PRICED right!*
You'll be amazed at how inexpensively you can guard against fire with this superior extinguisher.

**Kidde's New 2½ Gallon Wet Chemical STAINLESS STEEL FIRE EXTINGUISHER gives you more for your money!**

All stainless steel shell means greater strength, lighter weight, sales construction, years of reliable service . . . with the same extinguishing action and sure protection against fire that Kidde has always given. Transparent nozzle lets you see at a glance that nozzle passage is clear. Permanent nameplate with directions cannot fall off.

Take your choice of clear wand, wand-hose or hose type and get all the advantages of Kidde construction and Kidde "know how." Also available in an Anti-Freeze type, made of silicone solution, which eliminates the danger of corrosion that usually results from the Anti-Freeze solution.

Ask your Kidde Dealer or write us for complete information.

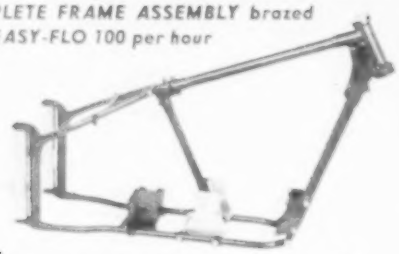
**Kidde**

Walter Kidde & Company, Inc., 936 Main St., Belleville 9, N. J.
In Canada: Walter Kidde & Company of Canada Ltd., Montreal, P. Q.

BREVITY—Identify by IEN - 8135 if you write the maker

**EASY-FLO adds cost-cutting strength to the new *Indian* lightweight frame!**

COMPLETE FRAME ASSEMBLY brazed with EASY-FLO 100 per hour



Indian Motorcycle Co. has found that *EASY-FLO brazed construction* of the frame and other important parts of their 1950 lightweight model, satisfies all strength requirements, is fast and economical and requires far less finishing.

TO FIND OUT what low-temperature EASY-FLO silver alloy brazing will do for you, write us to send a service engineer. There's no obligation. For the facts in print, ask for BULLETINS 12-A, 15 and 17.

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Also in Canada: Handy & Harman of Canada, Inc., Toronto

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For any type of magnet wire or problem, consult Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y. and 20 N. Wacker Drive, Chicago 6, Ill.

the right wire for the job

ANACONDA wire and cable

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(2) Completely machined from solid steel or malleable castings
(3) Compact-maximum strength
(4) Neoprene insert added strength, resiliency, shock absorbing, oilproof, greaseproof, heat resistant
(5) Easy to mount, easy to remove, positive locking clamp fit, 1/8th to 40 H.P. range—available from stock

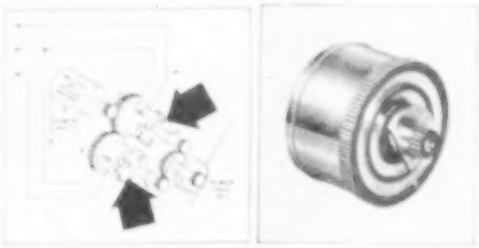
Nationwide service—write for the name of the BROWNING Gripbelt distributor near you

BROWNING MANUFACTURING COMPANY
INCORPORATED
1950 BROWNING DRIVE MAYSVILLE, KENTUCKY

BREVITY—Identify by IEN-8139 if you write the maker

## DRIVE . . Magnetic clutch employs finely divided iron particles

Source: LEAR INC.
108-12 Ionia Ave. N. W., Grand Rapids 2, Mich.



**Model 900H-2** is one of the designs in the company's line of Magnetic Power Clutches now available for general industrial use following a period of manufacture and application particularly in servo mechanisms for aircraft. The clutch is now offered in a range of capacities as a separate torque amplifier unit. It can be adapted to hydraulic, pneumatic or electrical prime movers directly or through flexible shafting.

**Application** in a drive is essentially as shown in the schematic drawing of the servo assembly in the illustration. The prime mover with suitable power input is geared to the clutch outer housing for steady operation during any active period. This rotation maintains the mass of iron powder mixture contained in the clutch in constant motion with centrifugal force maintaining symmetrical distribution through the air gap.

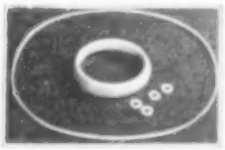
**Energizing** the clutch coil establishes a magnetic field through the gap causing the iron particles to become magnetized, binding themselves together and spanning the air gap in a practically solid mass. Thus the driven member with its centrally located output pinion is secured to the driving member solidly for power transmitting action. Opening the coil circuit releases the magnetizing effect and the clutch releases.

**The powdered iron** is dry so there is no problem of leakage from the housing. Operation can be maintained at temperatures to 250 deg. F. There is essentially no frictional wear in service. Control calls for a few milliamperes which can be handled by miniature electronic tubes. Minute currents from sensitive detecting devices will initiate corrective action requiring large forces. The clutch illustrated measures roughly 2 by 2 inches. It rates 50 in. lb. of static torque with control current at 8 ma. d-c., 12 in. lb. at 2 milliamperes.

BREVITY—Identify by IEN-8140 if you write the maker

## SEALING . . Teflon plastic rings to pack joints in process equipment

Source: CONNECTICUT HARD RUBBER CO.
405-9 East St., New Haven 9, Conn.



**Molded rings** made of Teflon plastic are now available to specification in a considerable range of sizes and sections for use in equipment handling chemicals, petroleum products. Largest of the typical units shown in the illustration is the 9 in. ring surrounding the other smaller pieces. The plastic is serviceable in a temperature range between minus 100 deg. and plus 625 deg. F.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

BREVITY—Identify by IEN-8141 if you write the maker

Q: Name a good screen cloth

A: HEWITT-ROBINS Screen Cloth

**BECAUSE** you increase the time between screen cloth changes on one made of steel.

**BECAUSE** Hewitt-Robins Screen Cloth is made of Super Gyrator, the specially blended alloy steel wire that's the toughest, hardest screening surface—electroplated.

**BECAUSE** Hewitt-Robins Super Gyrator Screen Cloth comes in the mesh you want . . . the one opening you need.

**BECAUSE** its heat treatment and microstructure make Super Gyrator highly resistant to abrasion without sacrificing ductility. You can actually bend a wire of this cloth around its own diameter without fracture.

*SEND TODAY* for Bulletin No. [illegible]. Fully describes Hewitt-Robins Super Gyrator Screen Cloth, 5/16" to 6" openings, made from #12 gauge wire to 5/8" rod in square and rectangular openings, flat top and non-blind weaves. Also in Gyrator (spring steel) stainless steel, Monel metal, brass or enamel coated in any standard diameter of wire. Robins Conveyors Division, 270 Passaic Ave., Passaic, N. J.

HEWITT-ROBINS SCREEN CLOTH

BREVITY—Identify by IEN-8142 if you write the maker

LUBRICATION ECONOMY

"We use LUBRIPLATE on big, hot, heavy bearings too!"

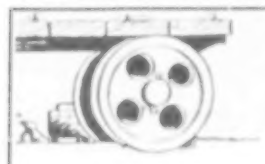
1. LUBRIPLATE reduces friction and wear.
2. LUBRIPLATE prevents rust and corrosion.
3. LUBRIPLATE is non-corrosive to iron.

With tons to use, Sylvania is saving money through the use of LUBRIPLATE. Is your company?

LUBRIPLATE DIVISION
Fiske Brothers Refining Co.
Newark, N. J. Toledo, Ohio

The Different LUBRICANT!

BREVITY—Identify by IEN-8143 if you write the maker



IN A Rut?

DON'T LET WORN FLOORS SLOW UP PRODUCTION!

A *real* heavy-duty floor must be concrete—*good* concrete. "Incor" 24-Hour Cement assures stronger, longer-lasting, heavy-duty concrete floors—by curing THOROUGHLY in 24 hours, instead of a week or more.

Don't let worn-out floors slow production—rebuild floors over a week-end with "Incor"—no plant tie-up—no time-loss!

Write for booklet, "Heavy Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.

LONE STAR CEMENT CORPORATION

BREVITY—Identify by IEN-8144 if you write the maker

The Practical Solution to Your Small Bearing Problems...

ACTUAL SIZE

NORMA-HOFFMANN Small BEARINGS...

When designs call for *small* bearings, *specify* and *use* Norma-Hoffmann Small Bearings. These small precision bearings are engineered to give efficient, trouble-free service for years on end. They are extra quiet in operation . . . require little if any maintenance . . . improve the performance of the product.

Write for catalog describing these *small* bearings as well as other Norma-Hoffmann Bearings. They are available in a wide range of types and sizes from 3/8" to 22 3/8" bore.

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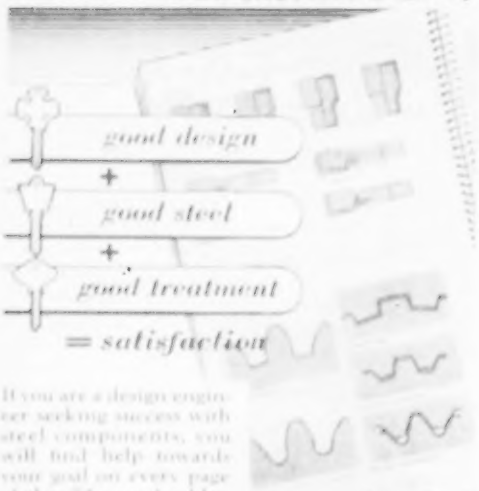
BALL ROLLER THRUST
NORMA-HOFFMANN BEARINGS CORPORATION
STAMFORD, CONN.

BREEZE—Identify by IEN-8145 if you write the maker




If you are a design engineer seeking success with steel components, you will find help towards your goal on every page of this 72 page booklet. Write now for "3 Keys to Satisfaction"—it is valuable and it is free.

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IB F20



BREEZE—Identify by IEN-8146 if you write the maker

Poro-Stone Filtration
FOR COMPRESSED AIR

EFFICIENTLY
REMOVES
OIL, WATER
PIPE SCALE

The Adams Poro-Stone Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation plus diffusion through Poro-Stone removes contamination completely with no pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data. Bulletin 176.

Automatic TRAP

R. P. ADAMS CO., INC.
219 E. Park Dr., Buffalo 17, N. Y.

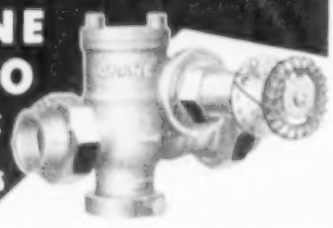
ADAMS Poro-Stone AIR FILTER



BREEZE—Identify by IEN-8147 if you write the maker

POSITIVE PROTECTION
AGAINST PRESSURE BUILD-UP

CRANE
no. 960
AUTOMATIC
PRESSURE
REGULATORS



Crane Water Regulators can only reduce pressure, can hold it to the desired point regardless of pressure fluctuations in the piping and—Even when unused, steam and air are not being used, pressure regulators build up to safety pressures.

Other excellent Crane No. 960 Regulators serve accessories, equipment with generally comparable and varying. All working parts are easily removable. Pressure adjustable to approximately [illegible] Bronze or cast iron, cast and finally walls.

Made for normal inlet pressures up to 250 pounds [illegible] to low-only pressure ranges. Up to [illegible] pounds [illegible] pounds. Sizes up to 2 in. For complete information [illegible] FOR TOTAL EFFICIENCY.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers serving all principal cities

EVERYTHING FOR EVERY PIPING SYSTEM
CRANE
VALVES • FITTINGS • PIPE • PLUMBING AND HEATING



INDUSTRIAL EQUIPMENT NEWS

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What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 18 SEPTEMBER, 1950 No. 9


## Calling Cards

The thousand or so of new product announcements and advertisements in Industrial Equipment News each month are calling cards actually. Each is introducing a manufacturer of things to do things with and is offering assistance for your plant and product problems. Back of each card is the manufacturer's hope to gain your attention and interest you to the point of action.

We are hopeful for your interest also because it is a measure of your acceptance for our judgment in selection of the items published.

In effect, you have picked up the manufacturer's card and have settled him to be counted with you when you make contact (letter or through an open reading a description or an advertisement in Industrial Equipment News. In return case your IEN identification will have told the manufacturer that you are seriously interested, that you are in a position of authority, that you understand the subject and you want his assistance.

You don't accompany your contact with request for literature only. If you are building a reference file for future action, or if you wish to consider a point or two prior to asking that a salesman call. There are many such inquiries. All are welcome needed and do point to future action when they carry IEN's identification. Some are be direct orders for equipment and buying parties only on subjects covering a year or more.

The contacts with which we are concerned particularly, however, and which we take credit here, are those in which the expenditure, in a sizable amount, the effect upon product design, or production or plant operation is be checked and made a need for careful judgment.

The representative who will call on your request in a little time is a great time more than a product creator. He is a trained person to counsel with you and if so, you would call on. He can prevent you from making mistakes. He will not try things to satisfy for.

[illegible] Then [illegible] make contacts or ask [illegible] Know that what that additional [illegible] are the stage [illegible] with anything [illegible] They pay [illegible] when the buyer from [illegible] the said [illegible] offering the action that he is [illegible] suggestions will [illegible] the when a buyer [illegible] suggestion [illegible] opportunity to assist you, [illegible] in answering your question [illegible] product. Then, when you have brought your business with [illegible] to be [illegible] to give you another [illegible] of the [illegible] when [illegible] the [illegible] time.

[illegible] Industrial Equipment News.

W. E. Foth.


BREEZE—Identify by IEN-8148 if you write the maker

Dependable . . . Efficient

DUST CONTROL
with DUCON FILTERS
*for every purpose*

Multi-Tube Cloth Collector

UNIFLOW BACKWASH COLLECTOR
An automatic continuous filter consisting a multiple of filter tubes.

FIBRE DUST FILTER
For collection of fibrous materials in installations where small floor space and large capacity are essential.

UNIT TYPE
Embodies multiple numbers of cloth filter bags to provide maximum filter area to air flow. Compact, efficient.

MULTI-TUBE TYPE
For general purpose dust collecting.

Write for Literature F1

The DUCON Co.
MINEOLA, N. Y.



BREEZE—Identify by IEN-8149 if you write the maker

"TELLEVEL" Bin-Level Control
STOPS-STARTS
CONVEYORS, ELEVATORS, PUMPS
AUTOMATICALLY

Self-contained, easily installed, the Tellevel Bin-Level Control Switch is the automatic guardian that starts and stops all kinds of conveyor equipment. Tellevel's pendant float ball prevents overfilling of bins . . . gives automatic control of material levels . . . eliminates costly spillage . . . prevents choking or actual damage to bin feeding conveyors. Available for bulk materials or liquids. Write today for complete information. Ask for Bulletin No. 1043.

STEPHEN S-ADAMSON
Tellevel Bin Level Controls • Car Loaders
SACO Speed Reducers • Car Pullers • Winches
SealMaster Ball Bearings
20 Ridgeway Ave., Aurora, Illinois



BREEZE—Identify by IEN-8150 if you write the maker

WHEN YOU . . .

Disconnect, You Stop the Flow in *Both* Ends

Wherever the flow of any fluids, or gases must be interrupted, Wiggins INST-O-MATIC couplings are lowering costs. Consider a Wiggins. Valves automatically support the flow in both ends. Connecting or disconnecting is as simple as switching on a light. Wiggins INST-O-MATIC couplings are in use efficiently in cane sugar, [illegible] and lower costs.

EQUIPMENT MANUFACTURERS
Many experiments were conducted to prove that the high results of Wiggins are the outcome of superior and advanced, and nearly a quarter [illegible] Wiggins Valves.

Wiggins
For proof of performance, write for a name of nearest representative. E. R. WIGGINS OIL TOOL CO., INC., 2424 E. Olympic Blvd., Los Angeles 23, Calif.

QUICK DISCONNECT
INST-O-MATIC COUPLINGS

IEN-8151

## Built Right for Tight Spots . . .

*Compact*

**LOVEJOY**

**Universal Joints**

Ideal for work inside tubing or close quarters as all parts are ground flush with the joint body. Ground of free alloy steel to infinite degree of accuracy. No binding, backlash, or play of pins. Concentricity guaranteed within .0005. Advanced design allows greater angle of operation and maximum bearing surface with no loss in strength.

Write for literature with handy tabulated joint data.

**LOVEJOY FLEXIBLE COUPLING CO.**

Also sole of Lovejoy Flexible Couplings and Lovejoy Flexible Speed Transmissions

5014 W. LAKE STREET CHICAGO 44, ILL.

IEN-8152

*DESIGNED*— for quiet, dependable operation

**SEALMASTER BALL BEARING UNITS**

- Pillow Blocks
- Take Up Units
- Flange Units
- Cartridge Units
- Flange Cartridge Units

**Self-Aligning**—Exclusive design permits shaft misalignment in any direction, without distortion of seal.

**Permanent Seal**—Patented centrifugal seals exclude dirt and retain lubricant.

**Pre-Lubricated**—SealMasters are shipped with lubricant sealed in—ready to use.

**No Housing Wear**—Patented locking pin positions unit for adaptation and prevents rotation of outer race in housing.

Write for Catalog 045

BEARING DIVISION

**STEPHEN S-ADAMSON**

*Factory Representatives and Dealers in All Principal Cities*

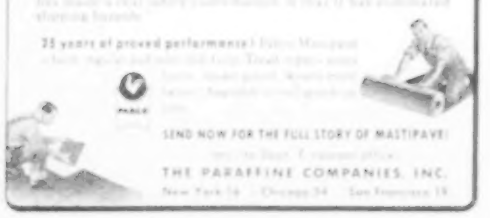
IEN-8153

**TAKES THE POUNDING OF *MILLIONS OF FEET!***

**PABCO MASTIPAVE**

AMERICA'S No. 1 LOW COST LONG-LIFE FLOOR COVERING

Here's what the ILLINOIS CENTRAL RAILROAD has to say about PABCO MASTIPAVE



SEND NOW FOR THE FULL STORY OF MASTIPAVE!

THE PARAFFINE COMPANIES, INC.

New York 36 · Chicago 54 · San Francisco 19

IEN-8154

## TIMING . . Instrument chart drive, spring wound to rotate circular charts

Source: PITTSBURGH EQUITABLE METER DIV.
402 N. Lexington Ave., Pittsburgh 8, Pa.

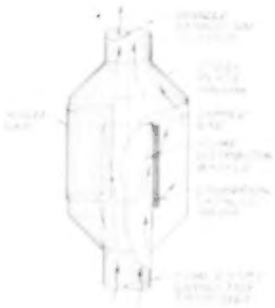
**This new drive** has been added to the company's line of spring wound, open face, approximately 4" diameter, high quality of various types and models. Bell, which made a long height and pressure 2¼" or 3" overall diameter. One line is basic chart rotating speed, 8 are intended for 24 hours and will run for 8 days after being fully wound. It takes every minute to complete a step of the subsidiary speeds, between 2 hours and 7 days. The other line is a basic speed of one revolution in seven days and where daily wound will run for 40 days. Controlling speed for these three actual 24 hour will continue for speeds between 14 and 31 days.

**The main arbors** of standard chart drive and are connected directly to the main arbor. These cases are one-piece stamped and are special. The mechanical cases are 3½" long with and plus gears. The gears are of brass or steel. Depending on operation or conditions of use, unless otherwise specified, Arlington gear assembly is fit the drive [illegible] specified in [illegible] mounting. The gears are 32 and 41, on the arbor, [illegible] for each speed between [illegible] and 41 to [illegible]

IEN-8155

## INCINERATOR . . For industrial fumes to prevent air pollution, as specified

Source: CATALYTIC COMBUSTION CORP.
4542-46 Grand River Ave., Detroit 8, Mich.



**The illustration** above shows a [illegible] for installation to the exhaust [illegible] Hydrocarbon vapors such as [illegible] are completely oxidized as they leave the roof and enter the incinerator, to pass the catalytic element.

**The action** and the equipment, for which more Buff patents are pending, is actually low temperature combustion accompanied by an abrupt rise in gas temperature between the entry and discharge sides of the element. On an actual test installation entering temperature was 500 deg. F. and leaving temperature ranged between 800 and 900 deg. F. depending on the gage of wire being oxidized and the speed through the oven. The company is prepared to supply engineering assistance in considering the equipment to eliminate air pollution by fumes.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 19*

IEN-8156

**TROMBETTA SOLENOID CO.**

331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.

SB-373 SHOE BRAKE
10" WHEEL, 5" FACE, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS
RECIPROMOTORS AND SEMOTORS

IEN-8157

*Heat it* BETTER and FASTER for *LESS!*

with **CHROMALOX** *Electric* HEATING UNITS

USE CHROMALOX Electric HEATING UNITS *for efficient and accurate heat to fit your EXACT needs!*

For details in Chromalox Heaters

Send for the valuable, informative Catalog 50. It features all the more than 15,000 types, sizes and ratings of Chromalox Electric Heaters for hundreds of uses.

See Chromalox Strip Heaters Advertisement, Page 11

EDWIN L. WIEGAND CO. · THE THOMAS BLDG. · PITTSBURGH 6, PA.

**CHROMALOX**

**ELECTRIC HEAT FOR MODERN INDUSTRY**

IEN-8158

**when you use**

## R-B® INTERCHANGEABLE PUNCHES and DIES

Because R-B interchangeable punches, dies and their retainers are standardized they can be used over and over as requirements change. Retainers are easily relocated and supplied in new die shoes. Punches and dies, when worn, can be reground into new sizes and shapes. And don't forget that, because they are completely and quickly interchangeable, R-B punches and dies also save you minutes in reduced press downtime for punch and die replacement. R-B standard punches and dies are stocked for immediate delivery. Special punches and dies are made promptly to your specifications.

Richard Brothers

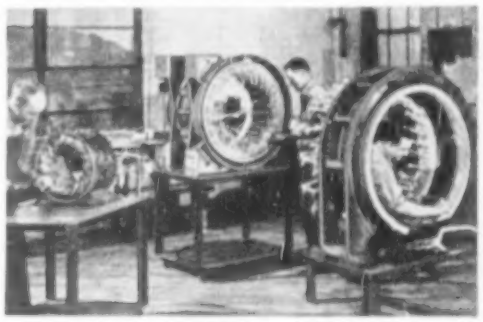
Get the whole story in this 48 page free catalog →

**ALLIED PRODUCTS CORPORATION**
**RICHARD BROTHERS DIVISION**

Department 47 • 1001 Bart Road • Detroit 23, Mich.

Also Produced in Allied's Four Plants . . . HARDENED AND PRECISION GROUND PARTS • STANDARD CAP SCREWS • SPECIAL COLD FORGED PARTS • SHEET METAL DIES • ALLITE DIES CAST OF ZINC ALLOY • JIGS • FIXTURES •

IEN-8159



## Rx for Ailing Motors –

***DEPEND ON REPAIR SERVICE LIKE THIS!***

A midwest utility recently learned what Allis-Chalmers Certified Service really means! When a vital 75 hp motor had an insulation failure, Chicago Electric, an A-C Certified Service Shop was called. In just 5 hours, the motor was completely repaired and back on the line!

You get this kind of service from over 80 A-C Certified Service Shops in every major industrial area . . . service that meets factory standards in quality parts and workmanship. For new motors or controls, too, see your nearest A-C Certified Service Shop or Authorized Dealer.

A-3070

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

**ALLIS-CHALMERS**

BREVITY—Identify by IEN-8160 if you write the maker

KEEP THINGS *MOVING* with a

Handles the jobs that are too "rough" for powered belt units. Undamaged by sharp corners or rough edged work. Supplies dependable power in gravity lines.

Work can be slowed or held without stopping conveyor.

**METZGAR "LIVE ROLLER" POWER UNIT**

**4 STANDARD SIZES**

**ADJUSTABLE HEIGHT**

STANDARD WIDTHS 12½", 14", 18", 24"

ALL STEEL BEARING SURFACE

PERMANENT OR PORTABLE BASE

For Full Specifications and Price write For Folder No. 1249

**METZGAR CO.**
417 Douglas N. W.
GRAND RAPIDS 4, MICH.

BREVITY—Identify by IEN-8161 if you write the maker

**New High-Speed Heavy-Service MONORAIL CRANES**

These new American Monorail Cranes offer all the advantages of mass movement, rugged construction, low-cost operation and quick installation to handle load capacities up to 10 tons. Operate by cab or from floor by limper-up control. Cranes can be installed under present operating conditions without excessive structural changes. An American Monorail engineer will be glad to discuss the possibilities of crane operation, regardless of the type of handling.

Send for Bulletin MF-1 describing the development of American Monorail Cranes.

THE AMERICAN MONORAIL COMPANY
13111 Athens Avenue • Cleveland 7, Ohio

BREVITY—Identify by IEN-8162 if you write the maker

**To MACHINE STAINLESS STEEL AT *Less Cost***

All your needs Carpenter representative for a copy of the new "NOTEBOOK on Machining Stainless Steel." This 16-page book contains much information published for the first time in chapter form.

- TURNING
- DRILLING
- TAPPING
- THREADING
- MILLING
- BROACHING
- REAMING
- FILING & SAWING
- STONING
- LUBRICATION

A Check Chart on each chrome nickel steel quickly gives accurate and concise data. Get your copy of the NOTEBOOK. Use it to get more out of the NOTEBOOK, to get Better and Manufacture Economically. And other time-saving data, if you want additional copies for the men or your plant, they can be delivered in time. Check coupon and mail today to the nearest to avoid loss of production and waiting.

**THE CARPENTER STEEL COMPANY**
151 W. Bern St., Reading, Pa.

BREVITY—Identify by IEN-8163 if you write the maker

**VAPOR COLLECTOR . . Removes oil from the air surrounding a machine**

Source: BROWN & SHARPE MFG. CO.
235 Promenade St., Providence 7, R. I.

**Screw machines**, grinding machines and other high-speed equipment employing oil coolants are served by this new collector. It is designed to connect to an intake hood at a machine where a mist of oil is being delivered into the air by the machining operations. It draws the oil-laden air into its housing where the oil is stopped by three filter panels and the air is returned to the room. Accumulated oil can be returned to the machine.

**The assembly** includes a motor-driven blower mounted on a filter housing that measures 33 by 28 by 44 in. when boxed for shipment. The blower intake measures 3⅞ in. in diameter. The motor rates ¼ hp. Installation can be made by setting the unit on the floor or by suspending it from overhead. Weight is 190 pounds. Application results in cleaning the air around the machine, in keeping the machine controls free from oil film, in general cleanliness in the machine area and in removal of oil from the machining operation.

BREVITY—Identify by IEN-8164 if you write the maker

**SEALING . . Plastic material for tanks, pipes, castings, patterns**

Source: PIONEER CHEMICAL & MFG. CO.
1826-30 Columbus Road, Cleveland 13, Ohio

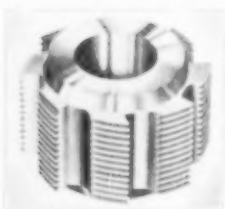
Kits list at $6 and $42.50

**Impregnated cloth**, plastic material and a solvent under the designation Pioneer Plastic are available in kit form to make repairs on metallic and non-metallic surfaces. Dents, scratches, cracks can be filled and covered, the material hardening in place with permanent adhesion to the surface.

BREVITY—Identify by IEN-8165 if you write the maker

**GEAR CUTTING . . Fine pitch hob for 20 to 200 diametrical pitch gears**

Source: ILLINOIS TOOL WORKS
2500 N. Keeler Ave., Chicago 39, Ill.



**The company** announces a new line of fine pitch hobs to cut gears of 20 diametrical pitch or finer. In connection with the development it has published an illustrated booklet, 16 pages, describing the hobs as to type, inspection, single and multiple thread design, lead tolerances, sharpening and mounting. A "Tindgraph" Chart is supplied with each hob to provide an easily-read, individual graph of actual variation in lead. Booklet title is "Fine Pitch Hobs". It will be sent on request.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

BREVITY—Identify by IEN-8166 if you write the maker

**SAVE SPACE!**

**New Collapsible Truscon Steel Box**

**TRUSCON STEEL COMPANY**

BREVITY—Identify by IEN-8167 if you write the maker

**MOST VERSATILE LIQUID FILTER EVER DEVELOPED**

MODEL R15 FILTER (Sectional View)

• Provides unusual efficiency and economy. *Permits use of any medium that comes in sheet form and can be crimped.* Both first cost and maintenance cost low. Radial Finned Insert provides large filtering area in small space.

NEW SLIP-ON INSERT FOR QUICK CHANGE OF MEDIUM

Complete Data on Request

DOLLINGER STAYNEW FILTERS

DOLLINGER CORPORATION
3 CENTRE PK., ROCHESTER 3, NEW YORK

BREVITY—Identify by IEN-8168 if you write the maker

**Ledeen CYLINDERS IMPROVE THE JOB**

CYLINDER OPERATED OIL WELL TUBING SPIDER SAVES 40% PULLING TIME

Tubing spiders, using 3 hand placed wedges or "slips", support heavy oil well tubing in the hole during assembly or disassembly.

New power tubing spider has only 2 slips, uses a 2" diam. x 6" stroke Ledeen Heavy Duty cylinder for power. Action is fast, holding is sure. Saves manpower. Saves up to 40% pulling time.

There are Ledeen medium duty, heavy duty and super duty cylinders for air, oil or water operation ready to help you, wherever you have to . . . push or pull • lift or lower • press or squeeze • tilt or turn • open or close.

Standard Ledeen cylinders and mounting attachments are available from distributors' stock in major cities. Special cylinders on order.

WRITE FOR NEW BULLETIN 100

LEDEEN CYLINDERS ARE GOOD CYLINDERS

**Ledeen MANUFACTURING CO.**
1602 SAN PEDRO STREET • LOS ANGELES 15, CALIF.

BREVITY—Identify by IEN-8169 if you write the maker

for • SPRAYING • WASHING • RINSING • COOLING • AIR CONDITIONING

Get the most out of your Spraying Equipment with minimum power . . . with efficient spraying. Use Yarway Nozzles. No internal vanes or other restrictions to cling or hinder flow.

Wide range of standard sizes and capacities. Cast or machined from solid bar stock.

Thousands in use. Write for Bulletin N-616.

**YARWAY SPRAY NOZZLES**

YARNALL-WARING COMPANY
122 Mermaid Avenue, Philadelphia 18, Pa.

▼ REBUTTT—Identify by IEN - 8170 if you write the maker ▼

A MEMO TO
**ENGINEERS**
...about "APITOL" GEARS

"WEAR RESISTANCE" due to "CONTROLLED" heat treating in our own shop, assures specified surface hardness to resist wear under modern high-speed heavy-load conditions. Quality materials ONLY with strength and toughness reduces breakage from shock.

MACHINED TO MICRO-FINISH
By skilled craftsmen . . . Men who know gear cutting!

OVER 40 YEARS GEAR CUTTING EXPERIENCE

SPECIAL MACHINING JOBS
Complete Facilities. Modern shops, experienced machinists to do contact work — Write for information.

SEND PRINTS
. . . for low cost quotations, get the "Wear Resistant" story!

**AUTO ENGINE WORKS**
241-X NORTH HAMLINE AVE. • ST. PAUL 4, MINN.

▼ REBUTTT—Identify by IEN - 8171 if you write the maker ▼

## NEW RUBBER SPRING PROVIDES UNIQUE BENEFITS

Used on new tractor seat, it eliminates slow down from rider fatigue . . . increases production

U.S. RUBBER
SERVING THROUGH SCIENCE

**UNITED STATES RUBBER COMPANY**
Mechanical Goods Division • Rockefeller Center, New York 20, N. Y.

▼ REBUTTT—Identify by IEN - 8172 if you write the maker ▼

## Sealing Lubricant
### contains pulverized lead

**Seals** threaded and flanged pipe connections for air, ammonia, alkalis, acids, chemicals, gas, steam, water.

**Lubricates** wire rope to protect against internal wear and sheave friction.

**Minimizes** wear and friction in packing and rotating and reciprocating shafts.

**Prevents** galling and seizing. Remains stable even with changes in temperature and pressure.

### Bestolife Lead Seal

— the petroleum industry, for many years
Sold with a money-back guarantee
— 1½ lb. cans to 50 lb. pails

**I. H. GRANCELL**

1601 E. Nadeau — Los Angeles 1, Calif.

▼ REBUTTT—Identify by IEN - 8173 if you write the maker ▼

## VAPOR COLLECTOR . . Removes oil from the air surrounding a machine

Source: AGET-DETROIT CO.
401 Main St., Ann Arbor, Mich.

Model AC-3 for vapor collection is a new machine in the company's fast-collecting equipment for installation at, or close to, commercial plants. The new machine (illustrated) which is of water lift through an 8-in. duct. Its blower is driven by a 3-hp. motor and acts to draw in contaminated and vapor from various local working locations supporting coolants for operations.

The mist is condensed in the collector housing by a filter made of non-inflammable spun glass. The condensate collects for removal at intervals through a drain valve. The collector measures 28 by 28 by 56½ inches. List price is $425. Shipping weight is 500 pounds.

▼ REBUTTT—Identify by IEN - 8174 if you write the maker ▼

## PAINTING . . Liquid primer for application on rusted surfaces

Source: THOMPSON-LONG CO.
139-41 W. Jackson Blvd., Chicago 4, Ill.

Packages in pints
quarts gallons
95 cents to $6.50

New primer, known as R-29-N, contains chemicals to combine with iron oxide or rust on a surface that is to be painted to form a compound coating which dries quickly to a hard dense film that makes an excellent base of paint. This film is impervious to moisture and as a result stops further corrosion of the coated surface. Application is by brush.

▼ REBUTTT—Identify by IEN - 8175 if you write the maker ▼

## PRESS . . Hand arbor unit for forcing, straightening, to 800 lb.

Source: H. D. HERDER-TOOL SPECIALTIES
2721-25 E. Michigan Ave., Kalamazoo, Mich.

Type HP-600 is a new hand-operated arbor press with a 3-in. table to take work that is maximum at 4⅝ in. in diameter. The press will take work 2⅝ in. in height over the table, 6 in. over the base which carries a 1-in. through hole. The ram is ⅝ to ½ in. and has 2⅝ in. of vertical movement. Leverage is 10 to 1. Frame height is 2⅝ inches. A straightening attachment is available to specifications. Shipping weight for the press without attachments is 10 pounds.

*All Makers of Lines And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56*

▼ REBUTTT—Identify by IEN - 8176 if you write the maker ▼

▼ REBUTTT—Identify by IEN - 8177 if you write the maker ▼

## "Sems" maker cuts tool costs; lengthens production runs 10 to 40%

To cut production costs, a good starting point is improved heat treatment of production tools, at least that's the experience of Butcher & Hart Mfg. Co., Toledo fastening manufacturer.

Butcher & Hart once heat treated heading dies, thread rollers and other tools by methods which did not always permit long tool life. Parts were short-lived and caused lost production. Rising costs led the firm to inquire about improved heat treating methods. After hearing about Vapocarb Hump Hardening and Home Tempering results, they installed the equipment.

Tool trouble vanished. Work coming from L&N furnaces met all specifications and lasted longer. Cold heading dies, like the one shown, now permit heading machines to run 10 to 40% longer without shutdown.

For information on better heat treating, write us at 4905 Stenton Ave., Philadelphia 44, Pa.

LEEDS & NORTHRUP COMPANY, 4901 STENTON AVE., PHILA. 44, PA.
**LEEDS & NORTHRUP**

▼ REBUTTT—Identify by IEN - 8178 if you write the maker ▼

**GOT YOUR COPY?**

unusual applications of ROLLER CHAINS

Here's a new book you'll surely want . . . titled "Unusual Applications of Roller Chains." It's packed with a variety of photographs, drawings and text, describing unusual uses for roller chains in drive, timing, and conveying applications. There are plenty of money-saving ideas between these covers.

If you have not received your free copy, send for it today, using coupon below.

And incidentally, we're planning to publish a supplement to this book soon, so if you know of any unusual application that might be of general interest, we'd be glad to hear from you.

**BALDWIN-REX** ROLLER CHAINS
a complete line from ¼ inch to 2½ inch pitch

Baldwin-Duckworth Division, Chain Belt Company
704 Plymouth St., Mishawaka, Ind.
Please send me a copy of Bulletin 49-1

Name
Company — Department
Street
City — State

▼ REBUTTT—Identify by IEN - 8179 if you write the maker ▼

## the IDEAL OPEN FLOOR for every industry

• *Electroforged* into one exceptionally strong piece • *non-slip twisted bar* for safe footing • maximum open area • self-cleaning, with no corners to clog • easily installed • easily maintained • *adaptable* to many uses, indoors and out, for every industry.

**BLAW-KNOX Electroforged STEEL GRATING**

Open Flooring • Sidewalk Doors • Bridge Surfacing • Catwalks • Sidewalks • Subway Grating • Treads
Many other uses

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BLAW-KNOX DIVISION of Blaw-Knox Company
2050 Farmers Bank Bldg., Pittsburgh 22, Pa.
Offices in Principal Cities

**BLAW-KNOX** ELECTROFORGED STEEL GRATING

▼ BREEZE—Identify by IEN-8180 if you write the maker ▼

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## Heavy Duty TRUCK CASTERS

- Double Ball Bearing Swivel
- Smooth Face Metal or Rubber Wheels
- Bolt and Sleeve Axle
- Hardened Steel Balls

## Rubber Wheels for FLOOR TRUCKS

- Easy rolling tires—resilient tread
- Prevent floor damage
- Molded-on type—long life
- Strong one-piece wheel casting

THOMAS TRUCK & CASTER CO.
126 MISSISSIPPI RIVER, KEOKUK, IOWA

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STOP LIQUID PROCESSING WASTE!

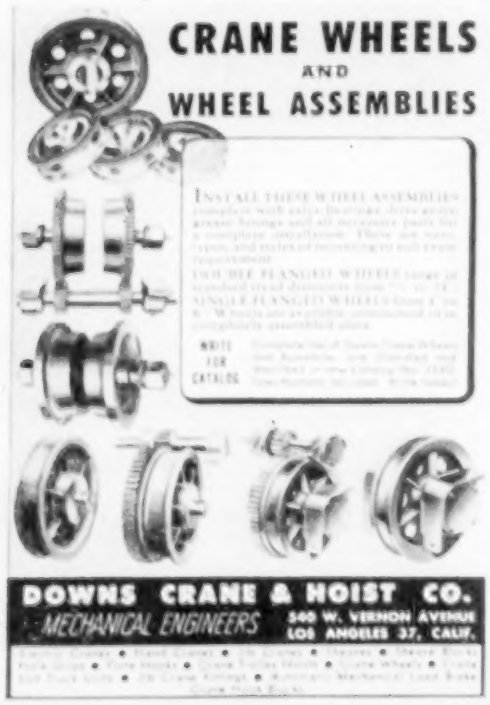
Time wasting, inaccurate tank gaging methods have been replaced in many plants by Bowser Xactu meters. This streamlining of liquid processing operations has increased production with less labor, space and capital investment. And by eliminating human errors, predetermined measurement with Xactu meters has GUARANTEED UNIFORMITY OF PRODUCT!

*Perhaps a survey of your plant's present liquid processing methods by a Bowser engineer would disclose similar advantages. Please write today and set a date.*

BOWSER, INC., 1338 Creighton Ave., Fort Wayne 2, Ind.

LIQUID CONTROL SPECIALISTS SINCE 1885

▼ BREEZE—Identify by IEN-8182 if you write the maker ▼



## CRANE WHEELS AND WHEEL ASSEMBLIES

INSTALL THESE WHEEL ASSEMBLIES complete with axle, bearings, dust guards, grease fittings and all necessary parts for a complete installation. There are many types and styles of mounting to suit every requirement.

DOUBLE FLANGED WHEELS range in standard steel diameters from 3" to 24".

SINGLE FLANGED WHEELS from 4" to 8". Wheels are available unmounted or in complete assembled units.

WRITE FOR CATALOG. Complete line of Crane Crane Wheels and Assemblies now standard and described in new Catalog No. 1100. Crane Hoists, Inc., 1100 W. 7th Street, Los Angeles 17, Calif.

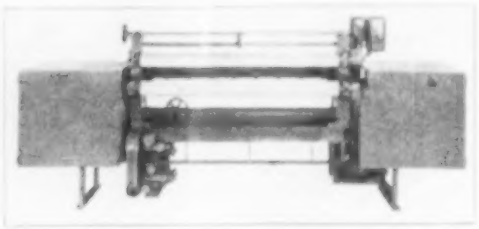
DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

Cranes • Hand Cranes • Jib Cranes • Hoists • Chain Blocks • Pipe Slings • Pipe Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake • Crane Hook Racks

▼ BREEZE—Identify by IEN-8183 if you write the maker ▼

## CUTTING . . Band knife machine for foam rubber, adjustable thickness

Source: MANSFIELD AUTOMATIC MACHINE CO.
75-79 E. Dickson Ave., Mansfield, Ohio



Slabs or continuous strips of foam rubber are wound for cutting a horizontal band knife in the company's recently redesigned splitting machine to cut the rubber into sheets of desired thickness. The feed roller, the knife and the machine's knife guides are all driven by individual motors.

The machine is available in sizes to work widths to 80 inches. The unit is adjustable for stock thickness by turning a handwheel on a horizontal shaft at the top of the assembly. Feed speed is adjustable for any rate up about 50 fpm.

▼ BREEZE—Identify by IEN-8184 if you write the maker ▼

## THREADING . . Hand tools for bolts takes 1/4 to 1 in. button dies

Source: RIDGE TOOL CO.
152 Clark St., Elyria, Ohio

Ridgid 00RB is a new ratchet-drive hand tool that is supplied with two chasers to cut Nat. Coarse Coarse and Nat. Fine Female can be used. The dies can be reversed to thread close to shoulder. Attachment is available for threading rings or nipples.

▼ BREEZE—Identify by IEN-8185 if you write the maker ▼

## RETRIEVING . . Spring operated reel carries 25 or 45 ft. of electric cord

Source: INDUSTRIAL PRODUCTS CO.
2801 N. Fourth St., Philadelphia 33, Pa.

The company announces a retracting reel for electric cord, cord in its line, to pay out or retrieve the cord as required. The reel mounts on a swivel bracket for wall or ceiling installation. It is permanently lubricated, enclosed and built for heavy duty. Various types of hand lamp holders and connectors can be supplied to specifications.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50*

▼ BREEZE—Identify by IEN-8186 if you write the maker ▼

Ramps Tilt to Meet Any Truck Bed. Automatically Adjust to Changing Level.

## Speed up HANDLING

WAYNE LOADING DOCK LIFTS

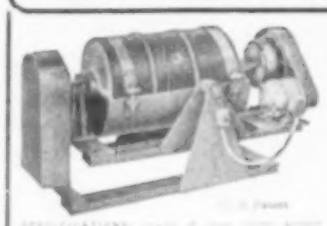
Save time and money with Wayne Hydraulic Leveling Ramps to adjust the level of the loading dock to the truck bed. Platform automatically adjusts itself. Material can be directly transported into and out of truck. Eliminates breakage and accidents. Cuts loading time in half.

THE WAYNE PUMP COMPANY
331 TECUMSEH STREET, FORT WAYNE 4, IND.

NATIONWIDE SERVICE

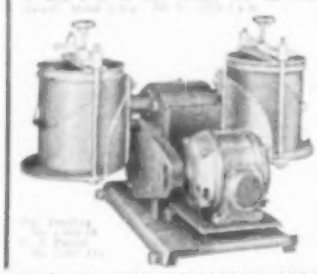
▼ BREEZE—Identify by IEN-8187 if you write the maker ▼

## ARLINGTON BARREL and DRUM TUMBLER



For mixing and liquefying up to 55 gallons

Fabricated steel rocking drum from end to end while it is making complete revolutions on its axis mixing and blending wet or dry materials uniformly and thoroughly.



Arlington Giant Paint Restorer

A top 200 x 200 gallon capacity. Each tight tank. Each tight tumbler assembly mounted 2 tight tanks in several popular sizes. GIANT PAINT RESTORER also is to be fed with only one hose and with 1 pump motor to be plugged into any light socket.

Prices on application.

ARLINGTON, INC.
674 Jenks Ave. Established 1912 St. Paul 6, Minn.

Manufacturing and dependable service available in new facility.

▼ BREEZE—Identify by IEN-8188 if you write the maker ▼

## With One OXWELD Blowpipe

*You can do All these Jobs . . .*

- ✓ Weld steel (28 gage to 1 inch thick)
- ✓ Cut steel (up to 8 inches thick)
- ✓ Heavy-duty heating
- ✓ Braze-welding
- ✓ Hard-surfacing
- ✓ Gouging
- ✓ Rivet-cutting

A battery-type unit for do-anywhere-you-want-to-work jobs, all you need is the Oxweld W-17 Blowpipe with the right welding tip and a cutting attachment.

It welcomes you the adaptability for many jobs, the one-piece design and sturdy construction of the W-17 assure dependable long life. Added years of *trouble-free service* mean the greatest overall saving to you. Write today for full information.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd St. New York 17, N. Y.

▼ BREEZE—Identify by IEN-8189 if you write the maker ▼

NEW NEW NEW

ADHESIVE BACKED, CHROMATE *Impregnated Felt* SEALING TAPES & GASKETINGS

NEW.

*Chrome Lock*

PREVENTS CORROSION
SEALS JOINTS AGAINST MOISTURE, AIR AND DUST

Chrome Lock is low cost sealing tape with an adhesive back coated on all types of surfaces, pipe, fittings, for open-wide and pipe joints and for sealing gaskets. Chrome Lock is chromate impregnated felt. Brand Chrome Impregnated.

- PRESSURE SENSITIVE ADHESIVE BACK
- ANTI-WICKING
- PREVENTS CORROSION
- PREVENTS ELECTROLYSIS
- LIFETIME PLIABILITY
- NATIONWIDE SERVICE

Write on your company letterhead for FREE Engineering Folder No. 10000 Today!

A PRODUCT OF PRODUCTS RESEARCH COMPANY

SPRING PACKING CORPORATION
332 SOUTH MICHIGAN AVENUE . . . CHICAGO 4, ILLINOIS

FREE!!!—Identify by IEN-8190 if you write the maker

IT PAYS TO CHOOSE

## PARKER-KALON

QUALITY-CONTROLLED PRODUCTS

*Cold-forged*

**WING NUTS**

Parker-Kalon Wing Nuts are free from flash, roughness and other imperfections. Holes are accurately made through uniform. The "squared-up" base allows nut to be drawn up tight and flush with the surface of the work.

*Cold-forged*

**THUMB SCREWS**

P-K Thumb Screws come with or without shoulders. Made by the cold-forging method, they have the strength for most rugged service . . . plus neat appearance that recommends them for the finest tools and instruments. Parker-Kalon Corporation, 200 Varick Street, New York 14, N. Y.

TRADE MARKS REG. U.S. PAT. OFF.

**P-K PARKER-KALON**
FASTENING DEVICES

Makers of the Original Self-Tapping Screws

Sold everywhere through Accredited Distributors

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FREE!!!—Identify by IEN-8191 if you write the maker

*We Make the*

**SECONDS COUNT**

*for* **YOU!**

Our method saves you time and labor figured not only in minutes, hours, days or months, but **SECONDS AS WELL,** through the remarkable speed of

## DETROIT POWER Screwdrivers

In fact, you can **DRIVE SCREWS AS FAST AS ONE A SECOND;** a tremendous gain over the old slow hand method—Any kind of screws: machine, wood, brass, self-tapping, sheet metal screws, standard heads, special heads.

No danger of marring heads or stripping threads—and all screws are driven to uniform tension . . . Hopper feed, no handling of screws is necessary. Thousands of manufacturers have adopted this modern method of speeding production—You, too, should get further details. There is a Detroit Power Screwdriver to fit your requirements.

Our new catalog is just off the press—

*Mail Coupon for Catalog*

**DETROIT POWER SCREWDRIVER CO.**
1615 WEST FORT ST., DETROIT 16, MICHIGAN

Yes, send along your new catalog . . . sounds interesting.

COMPANY NAME .....

BY .....

STREET ADDRESS .....

CITY ..... STATE .....

---

FREE!!!—Identify by IEN-8193 if you write the maker

## ELEVATOR . . Hydraulic ramp levels platform with a truck floor

Source: BEACON EXPERIMENTAL & ENGINEERING CO.
712-16 N. 12th St., St. Louis 3, Mo.

**Power movement** is provided hydraulically front and back through 14 to 24 in. and vertically through 24 in. by motor-driven hydraulic equipment in the new package-and-elevating ramp. There is also a lateral side-to-side adjustment by hand for overall three-dimensional movement. The unit serves as a dockboard in leveling between truck or freight car and shipping platform from a pressure bearing in the platform as an elevator rather than a bridging plate design as a standard dockboard.

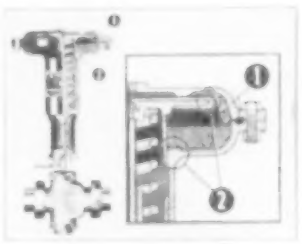
**Load rating** is 10 ton. The front and back movement, powered by a hydraulic cylinder and controlled at the motor pump assembly, permits retracting the ramp so an entire door can be closed to leave the outside building face flush and so the door can be opened and the ramp properly set to rest on a truck bed or car floor. The lateral movement permits compensation for small side misalignment. Ramp dimensions and tracking surface can be specified.

---

FREE!!!—Identify by IEN-8194 if you write the maker

## VALVE . . Diaphragm operated for gas, oil, steam, water to 250 lb.

Source: POWERS REGULATOR CO.
2737-A Greenview Ave., Chicago 14, Ill.



**Molded neoprene** diaphragm in this new Fluorite valve carries an integral ring bead around its outer edge to seal between the bead housing and cover. Inside the cover the diaphragm turns upward to form top of a floating thrust plate that rides on a spring-backed piston connected to the valve stem. The diaphragm is shown at 1 in the illustration. The skirt of the piston and its guide in the housing are shown at 2. The spring rides a ball-bearing non-rising adjustment to a range from 0 to 12 lb. for starting pressure. The spring is available for full travel in a control pressure range of 5 or 10 pounds.

**Construction** includes cast iron housing and cover, rust-proofed spring, stainless-steel stem riding in a preformed metallic packing, stainless-steel or bronze valve trim, single or double-seating action, direct or reverse and 3-way arrangement. The valve stem can be supplied with flanges or double unions. Size range is $\frac{3}{8}$ to 8 inches. Air or liquid can serve as the control medium.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

---

FREE!!!—Identify by IEN-8195 if you write the maker

**NOW**

**New air-operated clamps with toggle-bar force**

*from Feather-touch to* **OVER A TON**

. . . another example of design leadership to provide simultaneous multiple clamping and solve your SPEED-PRODUCTION problem.

Consult us direct or our representative engineer near you

Send for new folder giving further information

**KNU-VISE PRODUCTS** **LAPEER MFG. CO.**
**3056 DAVISON ROAD • LAPEER, MICHIGAN**

WESTERN DIVISION
422 MAGNOLIA ST.
GLENDALE, CALIF.

CANADIAN STOCKING DIST.
MIGGINSON ENGR. SALES
P. O. BOX 23
HAMILTON, ONTARIO

---

FREE!!!—Identify by IEN-8196 if you write the maker

## New report on savings with centralized lubrication

**YOURS for the asking**

FOR more than 20 years, Farval has been saving money for users. Through efficient, dependable lubrication of machines and industrial equipment of all kinds, Farval saves a worry. It saves oiling labor, it saves lubricant, it reduces bearing expense, it eliminates down time.

The Farval System is a positive mechanical method of delivering oil or grease under pressure to a group of bearings from one Central Station, in exact quantities, as often as desired. It consists of a central pumping unit, twin main supply lines and a measuring valve for each bearing.

Catalog No. 25 and "Case Studies—1950" give you the facts and figures. The Farval Corporation, 3258 East 80th Street, Cleveland 4, Ohio.

**FARVAL**
CENTRALIZED SYSTEMS OF LUBRICATION

---

FREE!!!—Identify by IEN-8197 if you write the maker

## For a better drive, select the proper Cleveland unit

WRITE for copies of the latest Cleveland catalogs for full information on all speed-saved worm gear speed reducers—including rating tables, dimensional diagrams and data for both standard and for cooled units. Ask for Catalog 100 for standard drives and Catalog 300 for speed-saver (fan-cooled). The Cleveland Worm & Gear Co., 3258 East 80th St., Cleveland 4, O.

**CLEVELAND Worm Gear *Speed Reducers***

---

FREE!!!—Identify by IEN-8198 if you write the maker

REPUBLIC · PLEXIGLAS · Stauffer · SIGNODE · KAISER ALUMINUM

***Now you can call Your Seal Your Own!***

**SIGNODE SPECIAL LITHOGRAPHED SEALS** can give your shipping containers, bales or bundles instant identity, protect their contents from pilferage, prevent separation of units in a multi-unit shipment, and speed handling all along the line. Your company name or trade-mark can be reproduced in colors easily. For complete information, mail the coupon now.

Signode Steel Strapping Co.
3013 N. Western Ave., Chicago 47, Ill.

We want to know more about Signode Special Lithographed Seals. Tell your representative to call . . . send literature and samples.

Name ..... Title .....

Company .....

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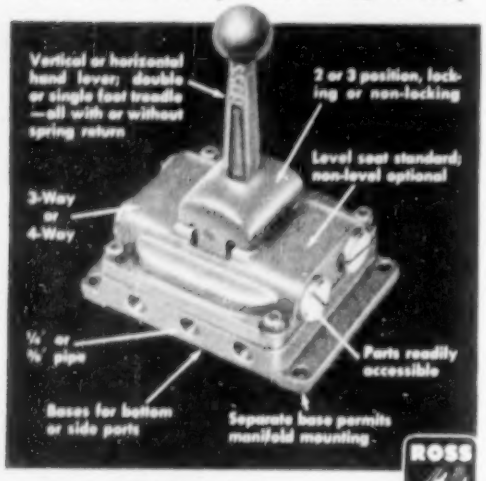
**THIS SEAL MEANS SECURITY IN SHIPPING**

BREFITT—Identify by IEN - 8199 if you write the maker

## A new ROSS Valve at a new LOW PRICE

¼" or ⅜" 3-Way • ¼" or ⅜" 4-Way

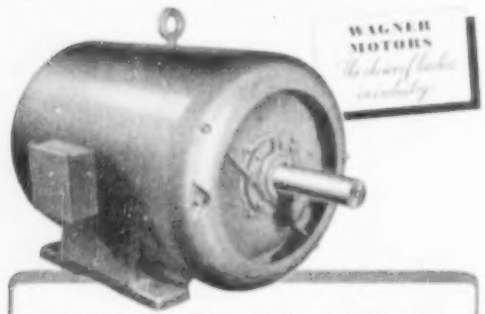



Write for full information

**ROSS OPERATING VALVE CO.**

120 E. GOLDEN GATE AVE., DETROIT 3, MICHIGAN

BREFITT—Identify by IEN - 8200 if you write the maker




### Wagner Totally-enclosed Motors best for really dirty jobs!

Wagner totally enclosed fan-cooled motors are designed for a particular purpose—to operate efficiently and safely under conditions that would quickly damage an ordinary open type motor. In really dirty jobs—in atmospheres filled with dust fumes, moisture, abrasives, steel chips and other harmful elements—these protected Type CP Motors keep on working, delivering dependable power with no maintenance other than periodic lubrication. Wagner totally enclosed fan-cooled motors are varied enough to suit a wide variety of application requirements.

Bulletin MU-185 gives complete information on Wagner Motors. Twenty nine sales and service branches in principal cities are ready to help you on any motor problem.

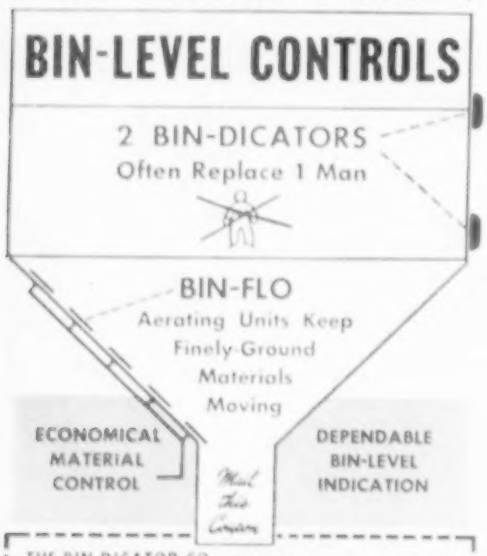
**Wagner Electric Corporation**

6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

BREFITT—Identify by IEN - 8201 if you write the maker

## BIN-LEVEL CONTROLS




THE BIN-DICATOR CO., 13986 Kercheval, Detroit 15, Mich.

Please send new 20 page catalog giving complete information and specifications on BIN-DICATORS. Also please send information on BIN-FLO Aerating Units.

Name _____
Address _____
City _____ Zone _____ State _____

BREFITT—Identify by IEN - 8202 if you write the maker

## TESTING . . Photocell light meter reads illumination to 5 footcandles

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Photocell detector is a self-moving base, a 10-ft. length of connecting cord and an indicator reading in 1 and 0.5 footcandles make up this new light-meter assembly. The unit has been designed to check low levels of illumination as in street lighting or—due to recommend corrective measures where their need is indicated. The parts fit into a carrying case when they are not in use.

BREFITT—Identify by IEN - 8203 if you write the maker

## FLOORS . . Expansion joint for concrete floors and driveways

Source: OWENS-CORNING FIBERGLAS CORP.
100 Nicholas Bldg., Toledo 1, Ohio

Ask for Bulletin
Fiberglas Standards
CPA. A1, 4 pages

Bonded glass wool board is impregnated with asphalt and is lined on both sides with a heavy asphalt saturated Kraft paper in construction of a new expansion joint for use in concrete construction. The joint prevents foreign non-compressible material from entering and making the expansion joint ineffective between floor surfaces.

It will recover 20 per cent of its original thickness within an hour. It shows no loss of weight after compression. Resistance of the fine glass and moisture absorption are well within requirements for highway construction. The material is supplied in ½, ¾ and 1 in. average thickness by 24 in. in width. Lengths are 10, 11 or 12 feet. Weight per sq. ft. is 1 to 2 pounds. Description is available.

BREFITT—Identify by IEN - 8204 if you write the maker

## THREADING . . Quick acting chuck for company's pipe threading machines

Source: OSTER MFG. CO.
2055-59 E. 61st St., Cleveland 3, Ohio

Auto-Grip is a new chuck with handwheel operation that grips a pipe and rotates it for threading upon making contact between the pipe and the chuck jaws. The latter tighten as drive resistance increases. They release instantly when the handwheel is reversed. Capacity is for pipe to 2 inches. The company is prepared to supply the chuck on its equipment Nos. 422, 442, 462, 562, 762 and 762.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREFITT—Identify by IEN - 8205 if you write the maker

## WIRE GLASS

Many large loss fires result from exposure through protective glass windows. Help avert loss and notify fire losses with Mississippi WIRE GLASS, the original solid wire glass upon which the Underwriter's Standard was based in 1899—the Standard history by which all others are judged.

For combined fire protection of economy and space, fly Mississippi Wire Glass. See your nearby distributor of quality glass today.

FREE SAMPLES ON REQUEST
Send for catalog No. 50

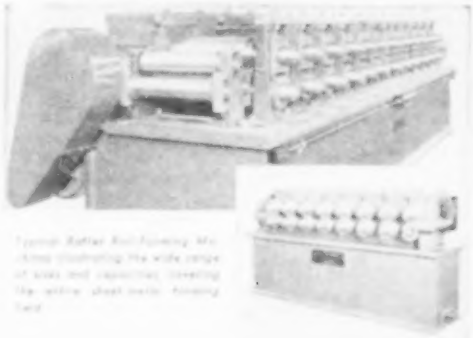
**MISSISSIPPI Glass COMPANY**

SAINT LOUIS 7, MO.
NEW YORK • CHICAGO • FULLERTON, CALIF.
World's Largest Manufacturer of Rolled, Figured and Wired Glass

BREFITT—Identify by IEN - 8206 if you write the maker

## RAFTER COLD METAL ROLL-FORMING MACHINES

*Correct Design for Maximum Efficiency*

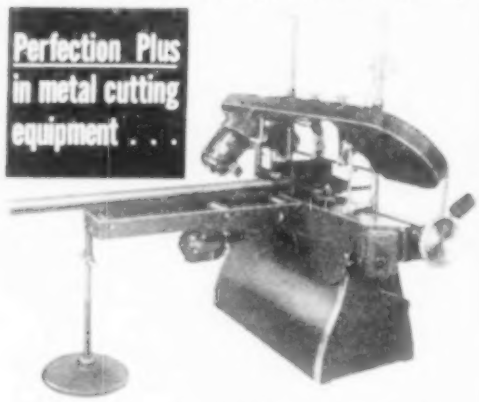


Typical Rafter Roll-Forming Machine illustrating the wide range of sizes and capacities covering the entire sheet metal forming field.

Enclosed hardened gear drive mounted on roller bearings distributes power efficiently to each pair of rolls . . . Gear ratio is a continuous reduction from drive shaft to roll shaft, quiet, efficient and compact. This drive consumes less power than any other type . . . Exclusive design permits greatest vertical adjustment of the upper roll spindles, without the aid of square packing or small complicated gears . . . Design permits quickest and most accurate change of roll position (forms always remain parallel). Adjusting screws contain hard roll bearings . . . Low power consumption, lasting accuracy, longer roll life and higher output are made possible by these and many other features.

**RAFTER MACHINE COMPANY, INC.**
SINCE 1917
249 Stephens Street • Belleville 9, N. J.
GANG SLITTERS and PRESS BRAKE DIES

BREFITT—Identify by IEN - 8207 if you write the maker




### . . . by the PIONEERS in this field!

Production volume UP, manufacturing costs DOWN—that's the job our band saws are doing in plant after plant. Big 14" x 18" capacity gives broad operating range. Fully automatic—motor drives, hydraulically controlled. Perfected by the pioneers in electric band saw manufacturing, these units guarantee the utmost precision accuracy.

Investigate the money saving possibilities offered by our line of trouble-free saws. Coolant system for wet cutting, automatic move-up system, and other accessories available as described in our FREE illustrated catalog.

WRITE TODAY FOR COMPLETE INFORMATION

**W. F. WELLS & SONS**
Three Rivers, Michigan

BREFITT—Identify by IEN - 8208 if you write the maker

Temperature regulation to plus or minus one degree F. is the unbeatable accuracy obtainable with the self-operated Farris Stacon Temperature Regulator.*

Two design factors are responsible:

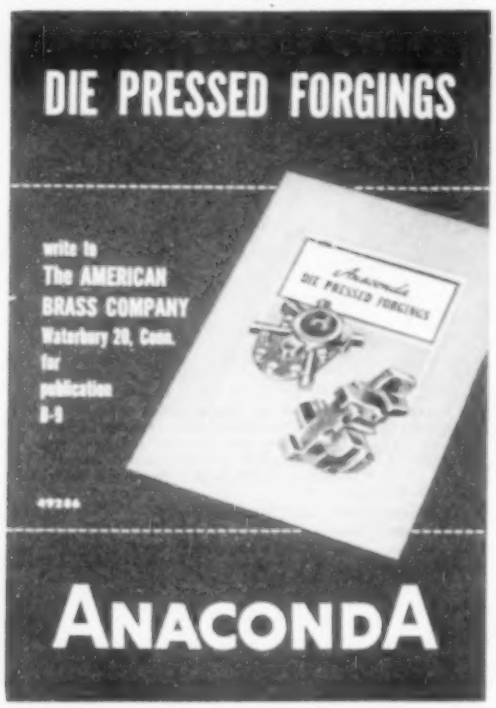
1. Liquid or bulb fitted to engine or power bellows . . . Gives then 10 psi which he uses . . . without opportunity lose sig.
2. For balancing bellows, has the effect of double valve operation with larger valve area . . . eliminates spring counterpoise and all packing glands . . . provides free floating valve that . . . provides regulation to necessary in minute temperatures.

Stacon Regulators are compact, trouble-free, dirt proof. They operate consistently in the most possible surroundings and require no maintenance.

You'll want to have more about the most advanced automatic temperature regulator on the market. Write for Stacon Bulletin 6-1000.

**farris stacon** CORPORATION
42 COMMERCIAL AVE. PALISADES PARK, N. J.

BREVITY—Identify by IEN - 8209 if you write the maker




BREVITY—Identify by IEN - 8210 if you write the maker

EFFICIENT · DEPENDABLE · LOW COST

Electric Heat FOR PRODUCTS AND PROCESSES

Easy to install CHROMALOX Electric Strip Heaters give clean, dependable and accurately controlled heat. They are widely used in plastic, rubber, tanks, ovens, air ducts and other applications requiring accurate temperature control and sound Westinghouse service.

In straight lengths, curves, right angles, with iron, steel and pipe sheaths.

WANT MORE FACTS?

Send for the free booklet "100 Ways to Apply Electric Heat." It has many ideas you can adapt for use in your plant.

EDWIN L. WIEGAND CO., 7591 THOMAS BLVD., PITTSBURGH 8, PA.
See Chromalox Electric Heating Units Advertisement, Page 5

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

BREVITY—Identify by IEN - 8211 if you write the maker

TWO WAYS WE CAN HELP YOU!

1. Cut your Designing Cost
2. Cut your Tooling Cost

1. A complete set of Tracing Templates is available on Morton Standardized Fixture Details. Select the Clamp that fits your need . . . trace it into your design.

2. Largest assortment of Clamps in the business. You'll find a Morton Clamp to do your job. Save valuable fixture designing time. Standardize with Morton.

Write today for FREE Morton Catalog, including complete set of Morton Clamp Tracing Templates.

MORTON MACHINE WORKS
2431 Warren St. Detroit 20, Michigan

MORTON
"Get More with Morton"

Fixture Clamps
and Standard Fixture Details

BREVITY—Identify by IEN - 8212 if you write the maker

STRAPPING . . Dispenser and cutter for company's paper strapping tape

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier St., St. Paul 6, Minn.

New dispenser (sets at 85 inches [illegible] 22 yd. on length) [illegible] up to 1 in. in width. It has [illegible] designed particularly for the company's Scotch [illegible] Dispenser [illegible] fitted with adhesive strapping tape previously described IEN-3108-10. The tape is particularly [illegible] by [illegible] by ordinary means because of the longitudinal reinforcing thread [illegible] fibers and for this purpose the dispenser carries a [illegible] special [illegible] type knife.

Pressing the lever moves the knife through the [illegible] thereby the [illegible] pressure the knife to [illegible]. The knife itself is replaceable. Five additional blades are provided.

BREVITY—Identify by IEN - 8213 if you write the maker

PAINTING . . Clear baking finish for brass hardware, fixtures, fittings

Source: STANDARD VARNISH WORKS
2602 Richmond Terrace, Staten Island 3, N. Y.

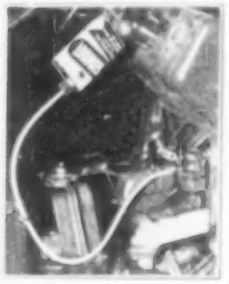
Packed in 5-gallon cans

Type RA 7318 is a new heat-convertible two-base liquid for automatic spray application to produce a film about [illegible] in. in thickness on brass or brass-plated products. Application is followed by baking at about 350 deg. F. baking about 8 min. for brass products and about 2 min. for iron with light sections. The dry film has good flexibility. It is potential [illegible] and spray [illegible].

BREVITY—Identify by IEN - 8214 if you write the maker

CLEANING . . Gum deposit solvent to clean engine carburetor in place

Source: PENNSYLVANIA REFINING CO.
2684-88 Lisbon Road, Cleveland 4, Ohio



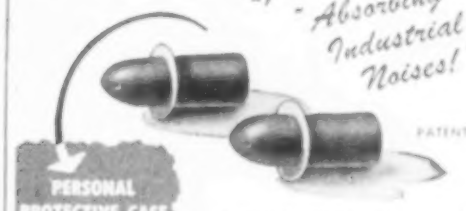
Gumool, trade name, new liquid solvent for introduction into an engine carburetor to dissolve accumulated gum deposits and permit their removal with accompanying dirt and carbonate through the engine and its exhaust line. Application is made with a connection line supplied for the purpose and the required 50 cc. charge to connect the container of liquid into the carburetor intake. The unwanted materials are broken up and fed out through the engine to a [illegible] engine running wheel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10

BREVITY—Identify by IEN - 8215 if you write the maker

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO EAR PROTECTORS PROVIDE HEARING PROTECTION & COMFORT by "Absorbing Industrial Noises!"



PATENTED

PERSONAL PROTECTIVE CASE

Each pair of Ipco ear [illegible] in a compact three-compartment plastic case as illustrated.

A special absorbent material sealed inside the ear protector "absorbs the noise" and permits hearing of ordinary personal and telephone conversation . . . Worn with comfort . . . No smoothing pressure holds up behind the protector . . . SANITARY . . . INEXPENSIVE.

Write for Bulletin F-10

IPCO Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET · PHILADELPHIA 33, PA.

BREVITY—Identify by IEN - 8216 if you write the maker

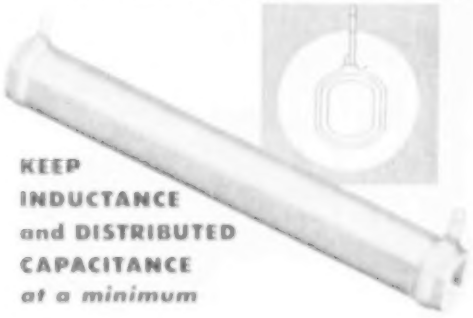
Lower Wrapping Costs
with this versatile machine

The versatile Model FA has established such a record as a cost reducer that it is now the most widely used of all wrapping machines. With a speed of up to 100 packages per minute, it turns out attractive wraps in a wide variety of styles. Adaptable to virtually any type of plain or printed wrapping material. Easily changed over to a different size package by convenient hand wheel adjustments.

Write for FA folder

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS · DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · MEXICO, D.F.

BREVITY—Identify by IEN - 8217 if you write the maker



KEEP INDUCTANCE and DISTRIBUTED CAPACITANCE *at a minimum*

Putting the opposed windings on a *flatted* core is a Ward Leonard *exclusive* in non-inductive resistors.

The flats help make sure that the crossings of the Ayrton-Perry winding are exactly 180° apart—thus reducing inductance and distributed capacitance to an absolute minimum.

For high watt rating in a given size unit . . . low difference in potential between adjacent turns . . . absence of undesirable high capacitance—specify Ward Leonard non-inductive resistors.

Write for catalog. WARD LEONARD ELECTRIC CO., 55 South Street, Mt. Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls
RESISTORS · RHEOSTATS · RELAYS · CONTROL DEVICES

BREVITY—Identify by IEN - 8218 if you write the maker

STOP DUSTS

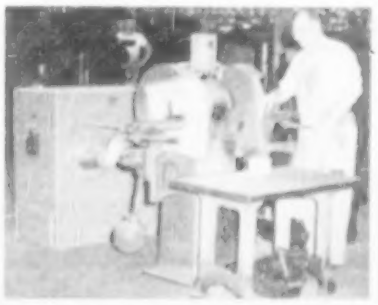
. . . from Any Size Grinder IMMEDIATELY . . . With DUSTKOP

22 Different Dustkops . . . Standard, Pre-tested
300 cfm to 9,000 cfm
For all kinds of dusts.

That's a Model #1150; takes all the dust from two 18" wheels.

Ask for Catalog 605-2. Describe dust problem for recommendation—no obligation.

AGET-DETROIT CO., Ann Arbor, Michigan



FREE!!!—Identify by IEN-8219 if you write the maker

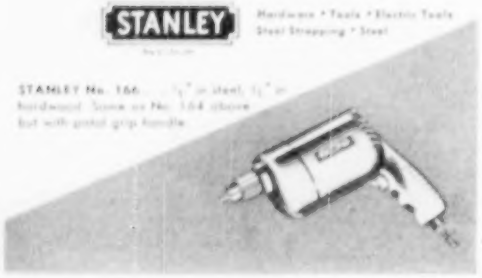
STANLEY No. 164 — ¼" in steel, ½" in hardwood. A production drill — bores through ½" tool steel in a half minute flat. Lightweight diecast aluminum housing, ball bearings, heavy duty spindle and gears, trigger type switches and Jacobs 3-Jaw Chucks.

## 2 NEW ¼" Electric Drills

See these new drills and other Stanley electric tools at your industrial distributor's, or write Stanley Electric Tools, 268 Myrtle Street, New Britain, Connecticut.

STANLEY — Hardware • Tools • Electric Tools Steel Stamping • Steel

STANLEY No. 166 — ¼" in steel, ½" in hardwood. Same as No. 164 above but with pistol grip handle.



FREE!!!—Identify by IEN-8220 if you write the maker

## To Sneak Profits when You Seal with

Leaks on lines carrying oil (hot or cold), gasoline, kerosene and high pressure steam are a costly waste. Key Graphite Paste provides a perfect seal for these lines. It expands under heat but will not freeze the connection. Joints completely sealed with Key Graphite Paste can be easily disconnected without damage to threads or gaskets. Eliminate expensive leakage with Key Graphite Paste. Listed by Underwriters Laboratories.

Try Key Graphite Paste in your own plant at no cost. Send for free trial sample.

KEY COMPANY
2651 McCausland Ave.
East St. Louis, Ill.

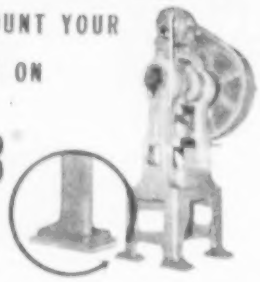
KEY Company

FREE!!!—Identify by IEN-8221 if you write the maker

# No Floor Damage!

WHEN YOU MOUNT YOUR MACHINES ON

# UNISORB



UNISORB Mounting requires no bolts, no lag screws, no old-fashioned, destructive floor drilling. A special cement (we supply it) binds the UNISORB pads to machine feet and floor with a holding strength of 1500 p. s. i. minimum. What's more, UNISORB absorbs from 60% to 85% of transmitted machine vibration and noise . . . saves floors, buildings, machinery . . . often permits higher machine speed. Today, write for your free copy of "Why It Pays To Anchor Your Machines with UNISORB."

The FELTERS Company
210-1 SOUTH STREET
BOSTON 11, MASS.

FREE!!!—Identify by IEN-8222 if you write the maker

## PRESS . . Base and bracket take company's pneumatic air cylinder

Source: BELLOWS CO.
230 W. Market St., Akron 3, Ohio

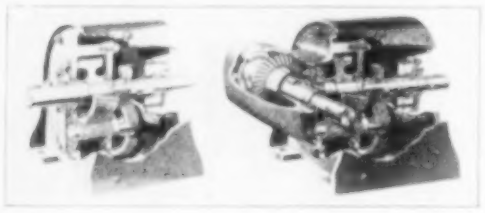
Light riveting, stamping, staking, marking and assembly work can be performed with a new combination of base and bracket and one of the company's pneumatic power cylinders. Air Motor Arbor Stand is the designation. The assembly is available with a cylinder to provide pressure equal to 1 to 5 times the applied air-line pressure. It can be equipped for hand or foot operation or for electrical control by suitable means.

**The base** measures 6 by 13 inches. It is made of steel 1⅛ in. in thickness and is ground flat on both faces. The bracket is cast iron. It mounts the cylinder for 3 in. of throat clearance and 6 in. of clearance between the base and the spindle end. Stroke length is 4 in. in standard construction but can be specified to 8 inches. Application can be made to squeeze or impact operation. Base and bracket together list at about $40. Separate bases are $30. Size, stroke and type of control determine the added cost of the power cylinder.

FREE!!!—Identify by IEN-8223 if you write the maker

## DRIVE . . Speed reducer, 1 to 50 hp., in-line and right-angle drive assembly

Source: FALK CORP.
3004 W. Canal St., Milwaukee 8, Wis.



**Type C** in which input and output shafts are in line and Type CB which adds a right angle drive on the input side are new speed reducers in the company's line of power transmission equipment. Both are suited for direct, belt or chain connection with motors, engines. Single to quadruple reductions provide overall ratio range from 1.5 to 920 to 1 in Type C on input speed to 1,750 rpm. Similar overall for Type CB is 5.7 to 515 to 1.

**The design** includes a steel housing in which the gears and shafts operate in oil, ball bearings for the shafts, cut, shaved and heat treated helical gearing, taper fairing for quick change of the gear ratios, seals to permit operation vertically or horizontally.

**Bulletins** 1100 and 2104 provide illustrated data on construction, service factors, dimensions, ratings, selection.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50*

FREE!!!—Identify by IEN-8224 if you write the maker

## Bulletin 600 Manual Starting Switches

- Compact, attractive design
- Available in special enclosures

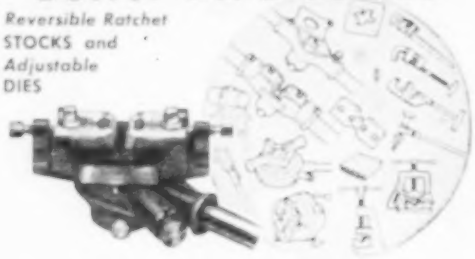
Bulletin 600 Manual Starting Switches are extensively used for air conditioning and refrigeration service. Accurate and dependable overload protection for motors of one horsepower or less on a-c, or ½ hp or less on d-c. Thermal overload elements available in a variety of ratings. Meet all N.E.C. requirements. Write for descriptive bulletin. Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wis.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

FREE!!!—Identify by IEN-8225 if you write the maker

# ARMSTRONG BROS.
## Better PIPE TOOLS

Reversible Ratchet STOCKS and Adjustable DIES



Exceptionally convenient where space is limited, this stock simplifies pipe threading close to walls, in corners and wherever operating room is restricted. With adjustable dies (cut exact, over or under size threads) it is an ideal tool where valves and fittings are being installed or maintained.

"ARMSTRONG BROS." Adjustable Dies are of special Vanadium Tool Steel, have "backed-off" teeth, correct cutting angle, ample chip clearance and correct throat angle. They start and cut easily, hold their sharpness and "spin" off pipe without jamming or tearing threads.

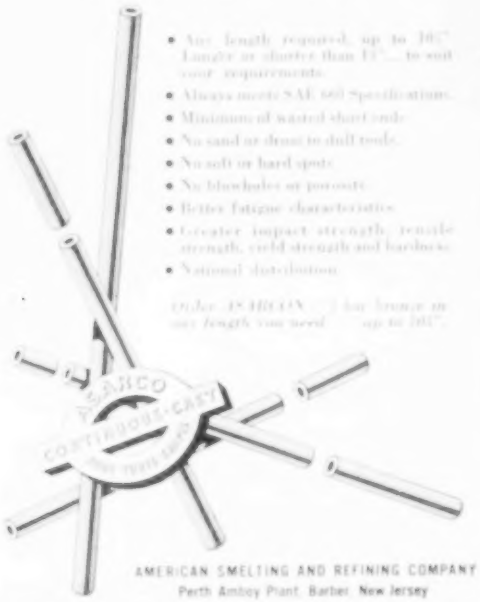
Write for Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5243 W. ARMSTRONG AVENUE • CHICAGO 30, ILL.

FREE!!!—Identify by IEN-8226 if you write the maker

## Asarcon 773 BEARING BRONZE

. . . IN ANY LENGTH YOU NEED




- Any length required, up to 10'6". Longer or shorter than 12" — to suit your requirements.
- Always meets SAE 660 Specifications.
- Minimum of wasted short ends.
- No sand or dross to dull tools.
- No soft or hard spots.
- No blowholes or porosity.
- Better fatigue characteristics.
- Greater impact strength, tensile strength, yield strength and hardness.
- Natural distribution.

Order ASARCO ... for bronze in any length you need ... up to 10'6".

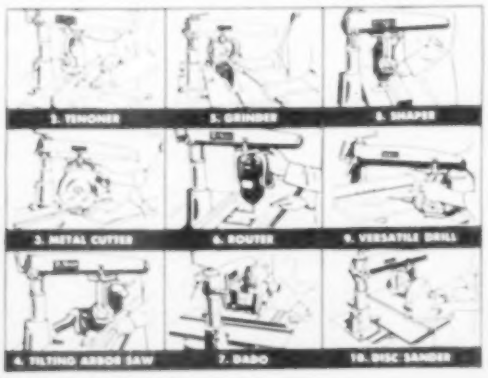
AMERICAN SMELTING AND REFINING COMPANY
Perth Amboy Plant, Barber, New Jersey

FREE!!!—Identify by IEN-8227 if you write the maker

# 10 POWER MACHINES IN ONE!

There's what you have (and more) when you write (wobble) all-purpose DeWalt. It's fast, accurate, safe—built for continuous service. Write for catalog.

DE WALT INC.
109 Fountain Avenue
Lancaster, Penna.



▼ REPRINTS—Identify by IEN-8228 if you write the maker ▼

# In AIR CYLINDERS

## It's MUSCLE you need!

AIR CYLINDERS

Are all Muscle. No Useless Frills. JLE Air Cylinders never wear out compare . . . tell us the size cylinder you're interested in or are using and we'll give you JLE's cost figures for comparison.

JLE Air Cylinders are made of one stroke in standard bore sizes from ½ to 40". Top operating pressure 150 lbs. per sq. in. Single or double acting. Choice of four standard mountings and of rod cushioning.

Distributor Inquiries Open . . . Write Today Giving Full Details Of Your Qualifications NOW

**JAMES L. ENTWISTLE CO.**

420 CHURCH STREET - PAWTUCKET, RHODE ISLAND

▼ REPRINTS—Identify by IEN-8229 if you write the maker ▼

# Greater capacity in existing conduit with DENSHEATH small diameter wire

DENSHEATH*

(Type TW) Thermoplastic covering

will not support combustion. Resists acids, oil, alkalies, moisture. Easy to pull, resists abrasion. Code-approved for 600 V., 140°F.

Write for Building Wire Catalog C-67
Anaconda Wire & Cable Company,
25 Broadway, New York 4, N. Y.

the right wire for the job **ANACONDA** WIRE AND CABLE

*Reg. U. S. Pat. Off.

▼ REPRINTS—Identify by IEN-8230 if you write the maker ▼

# STOP PIPE LEAKS POSITIVELY

Does tell us this is the best fit-around pipe leak clamp made.

IT'S QUICK. One person can install a Patchmaster on 30 seconds—from the moment he locates the pipe leak to light and leak-tight in pipe contact.

AMAZINGLY STRONG. Made of Durable machine steel for damage and corrosion resistant. It withstands pressures up to 300 psig.

PERMANENT. There's no need to worry and further repairs. The Hinge and rod cause it to contract to distortion by other pipe bit, after which they will remain against the pipe.

HIGHLY ECONOMICAL. The Patchmaster is an inexpensive pipe repair clamp or it can be good and cover two many other uses.

4 SIZES FOR ALL PIPE FROM ½ TO 4 INCHES

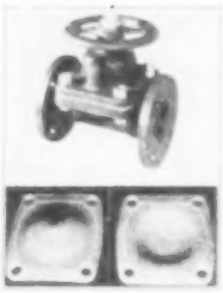
For information and Catalogue on Marman's complete line of pipe leak clamps write Dept. 7-E

**MARMAN PRODUCTS CO. INC.**
940 W. FLORENCE AVE., INGLEWOOD, CALIF.

▼ REPRINTS—Identify by IEN-8231 if you write the maker ▼

## VALVE . . Diaphragm design for corrosive fluids, ½ to 3 inches

Source: HILLS-McCANNA CO.
2247 W. Nelson St., Chicago 18, Ill.



Bakelite powered iron plastic is employed in construction of Hills-McCanna valve to the compound a new Bakelite resin to handle corrosive fluids such as sulphuric acid in concentrations above 98.5%. Temperature to 350 deg. F. and pressures to 400 psi are possible. The valve is available in body and bonnet materials to meet given requirements. Spring seals are supported in the bonnet and at the stem to prevent leakage in the event of diaphragm failure.

The valve is made in sizes from ½ to 3 in. with flanged or threaded ends. It can be supplied with a threaded bonnet and furnished as a 3-way valve for diaphragm operation. In the bonnet design the rising stem is fitted with an adjustable stop to prevent over-compressing the valve. Top pressure on the seat is the best.

▼ REPRINTS—Identify by IEN-8232 if you write the maker ▼

## PAINTING . . General purpose enamel for plant floors, equipment, pipe lines

Source: JOSEPH DIXON CRUCIBLE CO.
165-9 Wayne St., Jersey City 3, N. J.

For interiors and exteriors

Maintenance Enamel is a new material available in black, white and fourteen colors including green, red, brown, gray, orange for general purpose applications. The film is resistant to attack by abrasion, vibration, chipping, water, weathering. It dries to a hard color-retaining gloss.

▼ REPRINTS—Identify by IEN-8233 if you write the maker ▼

## FASTENING . . Extruded rubber cord employed to tie seat cushion springs

Source: STALWART RUBBER CO.
152 Northfield Road, Bedford, Ohio

The company now is offering for general use the extruded rubber cord following application of several months from its use the package in motor vehicle seat cushions. The cord is characterized by its resistance to aging, attack by chemicals, abrasion, cold, heat, heat. It has low permanent set. It is offered for use particularly by manufacturers as a product component in or great equipment within the scope of application.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50*

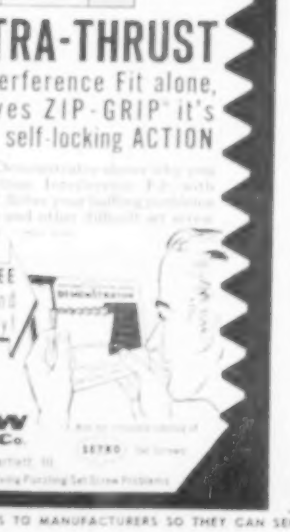
▼ REPRINTS—Identify by IEN-8234 if you write the maker ▼

# New ZIP-GRIP' Self-Locking SET SCREWS

## it's CONTRA-THRUST

NOT Interference Fit alone, that gives ZIP-GRIP' it's UNIQUE self-locking ACTION

New Free Demonstrator shows why you get more than Interference Fit with ZIP-GRIP' Setscrews. Stop loosening of vibration and other difficult set screw applications.

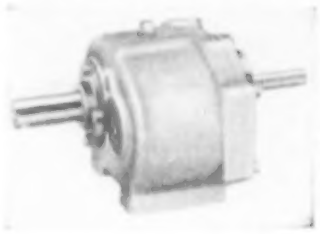


Send for your FREE Demonstrator and Data Sheet today!

**Set Screw & Mfg. Co.**
S. Main St. Bartlett, Ill.
We Specialize in Solving Puzzling Set Screw Problems

SETKO Set Screws

▼ REPRINTS—Identify by IEN-8235 if you write the maker ▼



# 2-speed automatic TRANSMISSION

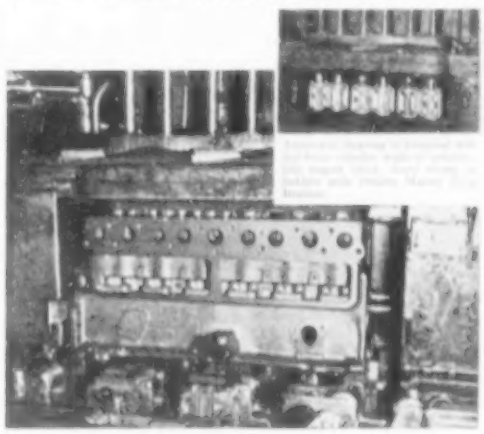
## . . used to supplement constant-speed and multi-speed motors . .

. . . with the advantages of providing broader range of speeds, and special ratios not obtainable electrically . . . In the five horsepower (illustrated) model, with a 1750 rpm input speed, the low limit of reduction is 6.31 to 1 but any pre-selected ratio, from direct motor speed to this low limit, is obtainable . . . WESTERN Two-Speed Automatic Transmission are built to handle 5, 10, 15, 20, 25 and up to 50 horsepower motors . . . *Send for complete information.*

**up to 50 h. p. WESTERN TRANSMISSIONS**

WESTERN MANUFACTURING CO. 1400 CENTER . DETROIT, MICHIGAN

▼ REPRINTS—Identify by IEN-8236 if you write the maker ▼



# Inside Story:

## HOW OSBORN BRUSHING ADDS MILES TO MOTORBLOCKS

WITHIN the walls of each engine block are more secrets of modern motor car performance. Of these, surface finish plays a major role for extending operating efficiency . . . for prolonging engine life.

When it comes to cutting wear and continuous, complete freedom from metallic burrs and residue is all important. To achieve this result at low cost, a leading car manufacturer is automatically brushing wear burrs, chemical residue and other foreign matter from cylinder walls after a special metal treatment to increase wear resisting qualities.

Osborn Masters Strip Brushes are mounted on each of 6 holders of the multiple head vertical boring machine, shown above. After boring the engine block, the machine cycle is started and all 6 cylinder walls are cleaned simultaneously . . . in only 30 seconds.

Whether your problem of cleaning, finishing or polishing of parts involves simple shapes or more complicated designs, it is likely that an OBA (Osborn Brushing Analyst) can demonstrate how your work can be done better, faster and at low cost by Osborn Power Brushing. The services of the Osborn Brushing Analyst, backed by Osborn's extensive technical facilities, are yours for the asking. Letter-form contains how you too can profit by new Osborn techniques. Write today for an OBA. *The Osborn Manufacturing Company, Dept. OBA, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

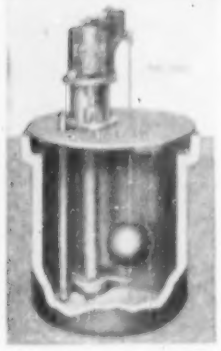
YOU CAN IMPROVE FINISH AND CUT COSTS BY BRUSHING

LOOK FOR THE NAME OSBORN

RECOGNIZED EVERYWHERE FOR THOROUGH APPLICATION ENGINEERING

▼ DRILLITT—Identify by IEN-8238 if you write the maker ▼

# DRAINAGE WATER PROBLEMS SOLVED



For the very best type of insurance against costly damage often caused by unexpected seepage or drainage water . . . you can depend upon the ruggedly built Taber Sump Pump.

With an 18" terra cotta tile to form the collecting basin a Taber Sump Pump is very definite protection; economical, efficient. Also built in capacities up to 250 g.p.m.

*Write for Complete*
**BULLETIN S-135**

Please use business letterhead when requesting Bulletin. Taber Pump Co. 268 Elm St., Buffalo 5, N. Y.

*Est. 1859*

**TABER SUMP PUMP**

▼ DRILLITT—Identify by IEN-8239 if you write the maker ▼

# CAR PULLERS...

In general use for Industrial Plants, Coal Yards, Lumber Yards, Building Supply Yards and Power Plants. Pull in any direction—compact design—3 to 6 cars. Jeffrey Car Pullers are economical — have weather-proof motor and control.

Send for literature.

# CONVEYORS...

The Jeffrey line of conveyors is complete. Includes: Apron, Belt, Bucket, Electric Vibrating, Flexible Bucket, Scraper, Spiral and Trough types. A Jeffrey Belt Idler is shown. For Conveyors — call upon Jeffrey.

**JEFFREY**

THE JEFFREY MANUFACTURING CO.
934 N. Fourth Street Columbus 16, Ohio

▼ DRILLITT—Identify by IEN-8240 if you write the maker ▼

**Try this BRONZE BAR STOCK...for**

*Faster Delivery ...Lower Cost!*

N.B.M. "Tiger" Bronze stocks are conveniently located for prompt delivery—at prices that will help cut costs in your plant or product.

If you're looking for better bearing at lower cost, get all the facts now on what more and more shop men are saying. N.B.M. "Tiger" Bronze. It's wear-resistant — corrosion-resistant — shock-resistant — unbelievably easy on machines. It has everything you want for long, trouble-free bearing service.

Try N.B.M. "Tiger" Bronze on your next order. Write today for quotations.

ASK FOR THIS FREE BOOKLET

American Brake Shoe Company — NATIONAL BEARING DIVISION

▼ DRILLITT—Identify by IEN-8241 if you write the maker ▼

## VALVE . . Swing type gate design for 125 lb. steam, 300 lb. water

Source: JENKINS BROS.
100 Park Ave., 30th Floor, New York 13, N. Y.

Swingtile is a new valve in which rotary action is set up by the guide vane A on the ball, and wears down that adjacent to the seat surfaces. The vane rides on guide tracks B that are cast in the body. They cause the discs to rotate as the valve opens and closes to assure even wear and a cleaning and polishing action.

**The operating lever** can be set in any of four positions to meet the limitations of a given installation. It can be fitted with a rope, chain or rod for remote operation. Design rating is 125 lb. for steam, 300 lb. for water and 50 p.s.i. gas. Sizes of this gate valve are ½ to 2 inches.

▼ DRILLITT—Identify by IEN-8242 if you write the maker ▼

## PIPE . . Flexible extruded plastic, 2 to 6 in., for solutions, gas, vapors

Source: CARLON PRODUCTS CORP.
10229-233 Meech Ave., Cleveland 5, Ohio

Has red stripe for identification

**Carlon EX** is new development of the company's line of flexible plastic pipe previously described in Type EF in IEN 11/50. The new pipe is resistant to rust, rot, electrolytic corrosion. It does not contaminate liquids for human use. It is suited for application as air ducts, exhaust lines, conduit, for industrial solutions, warm corrosive gases, vapors. It can be curved to follow ground contours, ditch turns.

**The 2 in. size** measures 2.070 id. and 2.495 od. Its calculated bursting pressure is 200 lbs. per square inch. It weighs .61 lb. per foot. It is supplied in 200 ft. coils. The 6 in. pipe measures 6.070 by 7.200 inches. Its bursting pressure is 250 lb. per sq. in. and its weight is 3 lb. per foot. It is shipped in 25 ft. coils. The line includes molded connection fittings to join lengths end to end. Working temperature range is minus 70 to plus 140 deg. F. Dielectric strength is 500 volts per mil.

▼ DRILLITT—Identify by IEN-8243 if you write the maker ▼

## DRILLING . . Hand push operated tool with 1/16 to 11/64 in. bits in handle

Source: NORTH BROS. MFG. CO.
American St. & Lehigh Ave., Philadelphia 33, Pa.

No. 45 designates new pushdrill in the company's line of Yankee tools. The spindle is fitted with a chuck that will hold each of the eight drill bits against rolling loose. Construction includes an aluminum screw cap, black plastic handle with compartments for the individual bits, screwdriver blade and one chuck equipped spindle.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 10

▼ DRILLITT—Identify by IEN-8244 if you write the maker ▼

FOR **BETTER** TEMPERATURE CONTROL

WRITE FOR BULLETIN 329

THE POWERS REGULATOR CO.
2721 Greenview Ave., Chicago 14
New York • Los Angeles • Toronto

**POWERS**

**No. 11 REGULATOR** 100 Heat Exchangers • Vats • Dryers
Jacket Water Cooling • Fuel and Crude Oil Heaters and Treaters
Bottle, Can, Dish and Metal Parts Washers • Drying Rooms

▼ DRILLITT—Identify by IEN-8245 if you write the maker ▼

LOW IN COST BUT HIGH IN EYE PROTECTION

the NEW COVERLITE goggle can be worn over most standard types of personal glasses

**CESCO's NEW COVERLITE**

LIGHTWEIGHT

WEIGHS LESS THAN 1 OUNCE

● Even this negligible weight (only 97/100 of an ounce) is distributed evenly over the nose, temples and cheeks.

The sturdy injection-moulded, non-flammable frame provides full protection from impact, dust, flying sparks and chips. Good ventilation and ample air space prevent fogging. Large frontal lens gives good range of vision in all directions.

Easy to adjust elastic headband. COVERLITE goggles can occupy an important place in your safety program. They are ideal for buffing, polishing, light assembly work and spot welding. Choice of clear, light green and dark transparent frames.

For complete information about CESCO's newest safety goggles ask your CESCO distributor or write

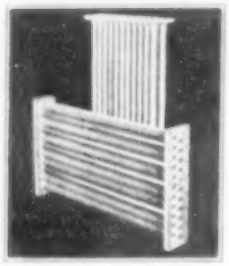
CHICAGO EYE SHIELD CO., 2326 Warren Blvd., Chicago 12, Ill.

**CESCO** FOR SAFETY

▼ DRILLITT—Identify by IEN-8246 if you write the maker ▼

# ROME HELICAL-FIN TUBING

*Over 90 sizes in Production*



Rome-extended surface Helical Fin Tubing is a highly efficient, compact surface for heat exchanging work. It is supplied in either straight lengths, coils, or U bends with or without threaded end connections, or it may be used as a standard bare pipe replacement. It is used for:

- Water Cooled Refrigerant Condensers
- Air Cooled Refrigerant Condensers
- Oil Coolers
- Steam Condensers
- Dry Cleaning Solvent Recovery Condensers
- Air Compressor Intercoolers and Aftercoolers
- Oil Coolers for Diesel Engines
- Fat Type Air Heating Coils
- Fat Type Air Cooling Coils
- Fat Type Unpackaged Unit Heaters
- Refrigerant Evaporators and Brine Cooling Coils
- Turbine Air Intake Coolers
- Room Heating Convectors (Non-metallic Radiators)
- Diesel and Truck Engine Cooling Radiators
- Railway Diesel Engine Cooling Systems

Rome-Helical-Fin Tubing is used and specified by nearly all large Nationally known manufacturers of heat exchanging equipment.

**ROME-TURNEY RADIATOR COMPANY**

Mfrs. of Refrigeration Condensers • Finned Copper Radiators
Heat Air Heating and Cooling Coils and Other Transfer Equipment

200 EAST FRONT STREET ROME, N. Y.

▼ DRILLITT—Identify by IEN-8247 if you write the maker ▼

MORE SPEED MORE SUPPORT

# STEP UP EFFICIENCY OLD OR NEW BAND-SAW EQUIPMENT

● Paddock Ball-Bearing Band Saw Guides give greater cutting power, so you can use the Ball Bearing Guides longer with the blade give more cuts per blade, reduce — cut down blade breakage — protect workmen.

Wherever you recognize the large gain Paddock Guides bring, work on wheels of large blade and extreme cutting. You get more work done at greater speed. Write today for complete data.

PADDOCK TOOL CO.
1418 Walnut Street Kansas City 6, Mo.
Guide Makers Since 1920

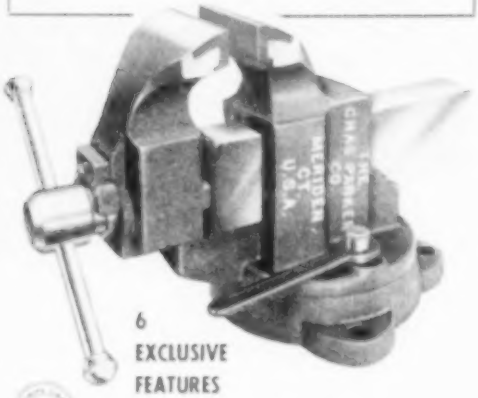
**Paddock** BALL-BEARING BAND SAW GUIDES

BREVITY—Identify by IEN - 8248 if you write the maker

# PARKER VISES

*Complete Line Including*

HINGED PIPE VISES • WOODWORKERS' VISES



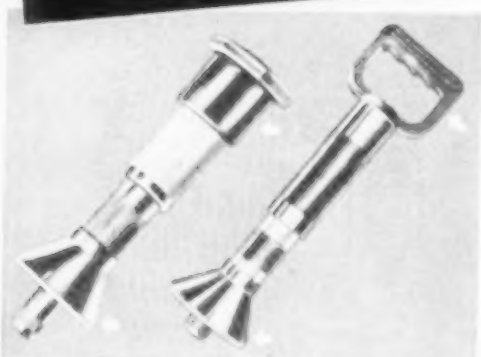
6 EXCLUSIVE FEATURES

*Write for catalog*
*Sold 100% through distributors*

THE CHARLES PARKER CO.
MERIDEN CONNECTICUT

BREVITY—Identify by IEN - 8249 if you write the maker

**Another product designed with Du Pont NEOPRENE**



## NEOPRENE parts on powder-actuated tool absorb shock, withstand grease, aging, abrasion

Used to drive nearly types of fasteners into steel, brick, concrete or other hard materials, both of these Ramset tools are designed as compact, sturdy units to stand up on the toughest job. As part of this planning, Stanco Corporation engineers specified neoprene as a tough, resilient material for both handle grips and the rubber insert under the safety shield.

The neoprene handle grips are comfortable to hold, lessen shock and resist oil, grease and perspiration. As a cushioning material for the insert, neoprene also withstands abrasion, cutting and chipping from rough surfaces, does not deteriorate with aging. They're important parts that contribute to efficiency and dependability.

So when you need a resilient part to stand severe service, specify neoprene. It will assure you of a more efficient, longer-lasting product. While Du Pont does not make any finished products of neoprene, we'll gladly help you find a supplier. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division, Wilmington 98, Delaware.

FREE! THE NEOPRENE NOTEBOOK

Full of interesting stories, facts, unusual applications of neoprene without cost or obligation — mailed on request. Write today for your free copy to E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division, U.S. Rubber Building, Chicago.

NEOPRENE
The rubber made by Du Pont since 1932

DU PONT

BETTER THINGS FOR BETTER LIVING THROUGH CHEMISTRY

BREVITY—Identify by IEN - 8251 if you write the maker

## MARKING . . Self-adhesive tape with printed face for written records

Source: TRANSPARENT PRODUCTS CO.
324 E. 24th St., 4th Floor, New York 10, N. Y.

Bite-On is a new water-resistant tape with one face coated to adhere on contact with a surface and the other printed for identification and record keeping purposes. The printed side can be written on with a pen or pencil. The tape is available in desired widths from ⅛ to 6 inches. It is supplied normally in 72 yd. rolls. Colors are white and pastel yellow. The printing is to specification to meet requirements.

**Applications** include identification of work in progress and in storage with notations for succeeding operations or inspections, lot numbers, schedules. The tape will adhere to metal and non-metallic surfaces. It can be stripped clean when it is no longer needed. Temperature change does not affect it.

BREVITY—Identify by IEN - 8252 if you write the maker

## ADHESIVE . . Urea resin glue for wood assemblies, sets cold

Source: MONSANTO CHEMICAL CO.
600 Monsanto Ave., Springfield 2, Mass.

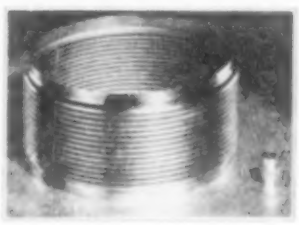
Company supplies use instructions

Lauxite LF77A with catalyst incorporated is a new urea resin glue with pot storage characteristics fit high ambient temperatures. The material is supplied in powdered form in Lewepak 325 lb drums. It has been field and laboratory tested for ordinary cold gluing in wood assemblies and in high frequency gluing operations. A water ratio of 6 lb. to 10 lb. of the powdered material is specified.

BREVITY—Identify by IEN - 8253 if you write the maker

## BELLOWS . . Made of stainless steel for specified application and service

Source: CHICAGO METAL HOSE CORP.
1308 S. 3rd St., Maywood, Ill.



New bellows provides flex actuating means for equipment such as regulators, valves, traps, seals, expansion connections, accelerometer correctors. It is made of stainless steel and is subject to specification for length, diameter to 2½ in. outside, metal gage, wall, and in single or multiple construction. Fittings can be specified also when complete assemblies are required.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Downtown . . Ratings . . See Page 58*

BREVITY—Identify by IEN - 8254 if you write the maker

# Stanzoils

Grip Oily Things As If Dry!

Liquid-Safe Hands Do Better Work...

Most rubber or neoprene gloves are slippery as wet soap — but not neoprene Stanzoils. Marvelous non-slip finger tip grip grips oily work as if dry, gives workers assurance and speed. Made of Du Pont neoprene, these gloves last rubber, protect hands in harmful materials at extra low cost per day. Stanzoil hand safety pays you in more production, less costly injury claims. Also available in white neoprene. Write today for information catalog.

Stanzoils Rubber Division
The Pioneer Rubber Company
4640 Telfair Road Willard, Ohio, U. S. A.
Los Angeles

OVER 30 YEARS OF QUALITY GLOVE MAKING

STANZOIL PIONEER

BREVITY—Identify by IEN - 8255 if you write the maker

## *for Machine Tool Service*

**Class 9007 Type A**—small precision switches with variety of roller arm or push rod operating mechanisms—flush or surface mounting. Accurate snap switch action.

**Class 9007 Type M**—heavy duty switches with accurate, quick acting trip mechanism. Variety of operating arms—double break silver contacts—accessible terminals—long life.

*Write* for Bulletins 9007 A and M, Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin

SQUARE D COMPANY

DETROIT MILWAUKEE LOS ANGELES

BREVITY—Identify by IEN - 8256 if you write the maker

## You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with ADAMS Aftercooler and Cyclone Separator

• Reducing compressed air temperature to within 10° of the cooling water, Adams equipment condenses and removes destructive water and oil vapors from your air lines.

PROTECTS your lines against rust, scale and freeze.
PROTECTS air motors from fouling and needle from clogging.
PREVENTS freezing of pipes in winter.
AVOIDS imperfections or spoilage in sprayed finishes.
PROLONGS the life of your pipe lines, air motors and tools.

*Write for new Bulletin 176*

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

BREVITY—Identify by IEN - 8257 if you write the maker

## PLANT POWER-PROBLEM:

How to prevent costly outages from phase-to-phase flashovers and burndowns in open wiring in chemical atmosphere

## SOLUTION:

use **OKOLITE-OKOPRENE**
**SELF-SUPPORTING AERIAL CABLE**

The combination of dust, moisture and acid fog prevailing around the Rumford, Me., mill of the Oxford Paper Company made it practically impossible to keep conventional insulated and wooden structures from becoming conducting, a point where even 2,300 volts resulted in phase-to-phase flashovers and breakdowns.

According to company officials, aerial cables with Okolite high voltage insulation and heat resistant neoprene jacket, by non-conducting, weather and chemical resistant Okoprene, overhead lines eliminated this trouble.

Compact, flexible, dependable and economical, Okolite-Okoprene Self-supporting Aerial Cable offers advantages below, including or not. Free 32 page illustrated manual will be sent upon request to The Okonite Company, Dept. 7N-1.

OKONITE insulated wires and cables

REFER TO INDUSTRIAL EQUIPMENT NEWS IN YOUR INQUIRIES TO MANUFACTURERS SO THEY CAN SEND SPECIFIC INFORMATION

BREVITY—Identify by IEN-8258 if you write the maker

# SARCO 24 30

DEAD END TEMPERATURE CONTROL

A pilot operated regulator with positive shut-off especially designed for instantaneous water heaters or fuel oil preheaters. All sizes. Factory calibrated for any temperature between 0° and 300°F. Pressures to 175 p.s.i. Catalog No. 600.

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

BREVITY—Identify by IEN-8259 if you write the maker

## A NEW HEAD ON OLD SHOULDERS

The "old shoulders" are the Marschke Polishing Stands, known for years as tops in their field. The fine is big, to fit your problem, from 1 HP to 15 HP, single or double end, with or without variable speed control, etc. Ball-bearing spindles, never whip, turn out quality work.

The "new head" is the Vonnegut Brush-Backed Polishing Head (shown) that makes cutting, smoothing or finishing of contoured and other odd-shaped surfaces a cinch, either to prepare for or after the finish is applied. Describe YOUR problem, or send us a sample, maybe we can help you?

VONNEGUT MOULDER CORPORATION
1827 MADISON AVENUE • INDIANAPOLIS 25, INDIANA

BREVITY—Identify by IEN-8260 if you write the maker

NEW 10-ton Industrial Yard Crane

## WAYNE CRANE

MODEL 20

MAGNET • CLAMSHELL • DRAGLINE •

BREVITY—Identify by IEN-8261 if you write the maker

## PUNCHING . . Hand hydraulic tool punches knockout holes in 10 gage steel

Source: GREENLEE TOOL CO.
2134-38 12th St., Rockford, Ill.

**Hydraram No. 7646** is a new assembly of hand-hydraulic pump with integral oil reservoir, a 9-ft. length of wire reinforced hydraulic hose and a pull-punch cylinder assembly in which a hydraulic piston operates a shaft to bring a die and punch together from opposite sides of a sheet metal wall as in a hydraulic vise. Application requires an initial hole through the wall to take the shaft.

**The cylinder** assembly with its shaft extended is presented to the opening when pressure the die for a hole of selected size is held and wound behind the pull shaft end. The shaft is then inserted through the pre-cut perforated small hole and the punch is threaded on it so as the die. Operating the hydraulic pump then drives the punch through the wall into the die to make the required hole.

**The pump** develops 10,000 psi pressure. It measures 12 in. in width by 7 in. in outside diameter. It is filled with a plastic fluid to fill 20 psi, in pressure to eliminate air pocketing. The hydraulic cylinder is fitted with a ⅝ in. pull-shaft that takes a 3/16 in. thick but small punches up to 1½ in. shown for the largest size. Dryers 1 pos. a range in ⅛ to 4 in. in hole diameter. The kit is in a metal carrying case with a set of punches. Pump and power cylinder are available alone.

BREVITY—Identify by IEN-8262 if you write the maker

## BEARINGS . . Porous bronze in solid and cored bars and plates

Source: BOSTON GEAR WORKS
63 Hayward St., Quincy 71, Mass.

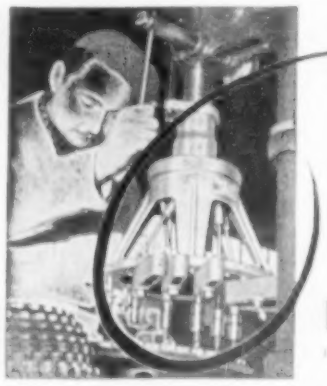
**Bost-Bronz** is a new line of solid and cored bar stock and plates from which to machine bearing bushings, thrust washers, straight bearing ways. The bronze is porous and absorbs oil by capillary action. It holds the oil, delivering it in minute amounts evenly over a bearing surface without drip. No oil holes or grooves are required.

**Solid bar** is stocked in ⅜ in. to 4 in. diameter. Cored stock measures ⅝ to 4 in. od, 1 to 6 in. od. Plate stock is ⅝ to 1 in. in thickness. Also available from stock are plain cylinders, bushings measuring ⅝ to 3 in. id. Banged bearings ⅜ to 2 in. id. Thrust bearings ⅝ to 1½ in. od.

**Catalog 55**, presents information on stock sizes in detail with discussion, load ratings and bar prices.

*All Makers of Them And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 56*

BREVITY—Identify by IEN-8263 if you write the maker



MULTIPLE DRILLING with a MULTI-DRILL

INCREASES CAPACITY UP TO 800%

ADJUSTABLE TO ANY HOLE PATTERN . . . FITS ANY DRILL PRESS

COMMANDER MFG. CO.
4318 WEST KINZIE ST. CHICAGO 24, ILLINOIS

Product of Commander — Builder of the Commander Tapper

BREVITY—Identify by IEN-8264 if you write the maker

"I'll Keep Things Moving For You!—The Boys all like my easy rolling style"

says the Nutting Trucker

## A Great Variety of Standard Types

Save lost time, eliminate bottlenecks and wasted motions increase production capacity by streamlining handling of material with the type of Nutting Trucks suited to your work. For quicker delivery a great variety of standard types are available—bar handle, stake, platform, 2-wheel, box, rack, shelf and many others. Also rubber tired wheels and casters of all sizes for any truck.

Look in your classified phone directory for your local Nutting representative. If not listed write us stating kind of trucks you need.

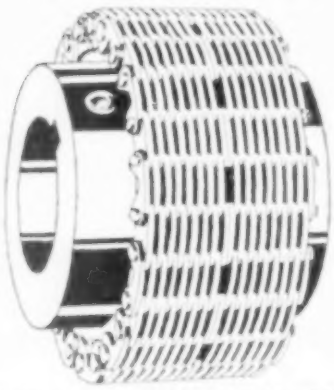
Write for Bulletin 496

Our 59th Year

NUTTING TRUCK AND CASTER COMPANY
2011 DIVISION STREET, FARIBAULT, MINNESOTA

BREVITY—Identify by IEN-8265 if you write the maker

# RAMSEY COUPLINGS



An all metal product with flexibility attained through design rather than materials. Simple, sturdy, compact. Easily installed. Eleven sizes available for wide range of loads. Protective aluminum covers. Shipments from stock. Send for literature giving dimensions, capacities, prices, etc.

RAMSEY CHAIN COMPANY, INC.
5052 BROADWAY, ALBANY, N. Y.

BREVITY—Identify by IEN-8266 if you write the maker

## PUMPS...Vertical close-coupled turbine, for short settings with any practicable head and capacity

*Available from* PEERLESS PUMP DIVISION
Food Machinery and Chemical Corporation

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

▼ BREVITY—Identify by IEN-8267 if you write the maker ▼

8-Page
Condensed Catalog

shows Veeder-Root Counters for mechanical, electrical and manual operation. Write for a free copy.

**VEEDER-ROOT INC.**
HARTFORD 2, CONNECTICUT

▼ BREVITY—Identify by IEN-8268 if you write the maker ▼

**Your Move in the Right Direction!**
**Always**
***GET YOUR BEARINGS***

*From BEARING SPECIALISTS*
Members of THE ANTI-FRICTION BEARING DISTRIBUTORS ASSOCIATION

NOW is the time to eliminate future bearing worries. The largest stock of bearings of every size and description is in the warehouse of your local "Bearing Specialist." You will save time, money and worry if you take full advantage of this service now! There is a member of our Association in your neighborhood. He's the man best able to give you proper bearing service. Why not write today and we will have him call on you?

**"INSTALLATION, MAINTENANCE, REMOVAL of ANTI-FRICTION BEARINGS"**
This 20-page booklet tells you the how and why of caring for all types of bearings. Practical ideas on all phases of bearing life. Ask for it now!

*A word about the ANTI-FRICTION BEARING DISTRIBUTORS' ASSOCIATION*
A group of BEARING SPECIALISTS, working with and for every segment of industrial America—maintaining the highest standards of business ethics and occupying a place of esteem in industry for the services they render—banded together to further increase their usefulness to industry.

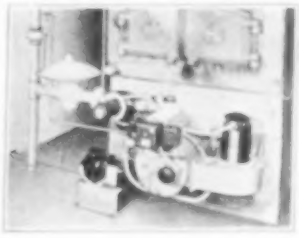
MEMBER AFBDA ANTI-FRICTION BEARING DISTRIBUTORS' ASSOCIATION

THE ANTI-FRICTION BEARING DISTRIBUTORS' ASSOCIATION
1900 Euclid Ave., Cleveland 15, Ohio

▼ BREVITY—Identify by IEN-8270 if you write the maker ▼

**HEATING . . Gas-oil burner operates selectively, rates to 75 bhp.**

Source: NORTH AMERICAN MFG. CO.
4452-57 E. 71st St., Cleveland 5, Ohio



No. 2 fuel oil, or lighter, natural or mixed gas can be burned selectively in this new Flame King Series 110-DF boiler-burner assembly. It has Gunite a refractory-lined combustion chamber forming the central element of the new unit. This element measures 12 in. in outside diameter. The oil burner is surrounded inside the chamber face by a plate type gas burner. Both are served by a motor driven blower mounted vertically to the right of the assembly. On the left is a motor driven pump to supply oil and a regulator for connection to a gas line. On the top is a housing that encloses the automatic controls and safeguards.

Four sizes in the line have maximum ratings at 1.8 to 3.75 million btu. per hour. Each of the four is available for expected steam pressures to 10 or to 150 pounds. Detail illustrated information is contained in 4-page Bulletin 110-DF.

▼ BREVITY—Identify by IEN-8271 if you write the maker ▼

**LUBRICATING . .Rust preventive oil supplied in pressure spray container**

Source: MITCHELL-BRADFORD CHEMICAL CO.
2444-48 Main St., Stratford, Conn.

List price
$1 per can

Gun Guard Oil is a new oil concentrate with excellent corrosion preventive characteristics on finished metal surfaces. It is packaged in pressurized spray containers that are shipped ready to use. The oil has ability to displace surface moisture. It will penetrate into very small openings. It will dissolve gum-coated deposits that have gummed.

▼ BREVITY—Identify by IEN-8272 if you write the maker ▼

**MARKING . . Gravity feed machine, handle controlled for traffic lines**

Source: S. B. BEUGLER
3665-69 Tracy St., Los Angeles 39, Calif.

Mark-A-Zone, trade name, new hand-propelled traffic line marking machine that feeds paint by gravity from a 4½-qt. supply tank to a rubber spreader as the machine is moved forward. Paint is started by lowering the handle, is stopped by raising it. The line can be specified for 2 or 4½ in. width. List price is about $100. The 2-in. hand marks about 720 ft. per gallon. Weight is 18 lb.

*All Makes of Trucks and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BREVITY—Identify by IEN-8273 if you write the maker ▼

*the Original*

**ALUMINUM SAFETY HAT**

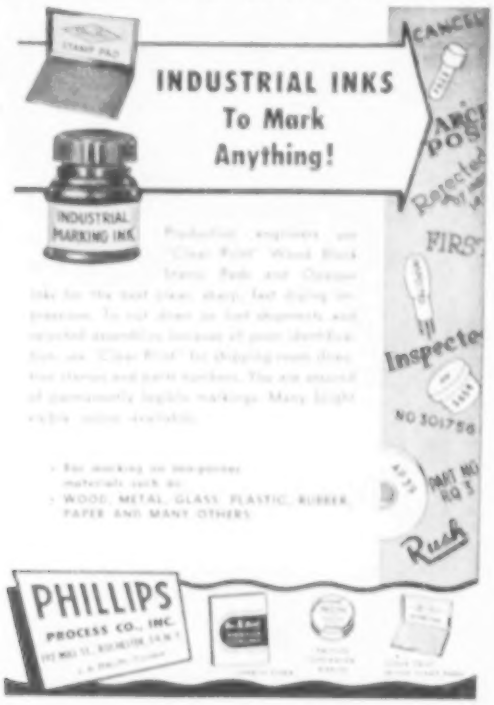
*McDonald*
**TYPE "T"**

— Made of super-tough duralumin
— Ribs radiating for extra strength
— Light in weight (11½ oz.)
— Cool—reflects sun's rays
— Good looking—preferred by workmen
— Fully cushioned, easily adjusted headband
— Two shell sizes fit all heads
— Accessories for winter wear

WRITE FOR BULLETIN AND PRICES

**B. F. McDONALD CO.**
Manufacturers & Distributors of Industrial Safety Equipment
5110 S. HOOVER ST., LOS ANGELES 37, CALIF.
Other Offices in San Francisco & Houston

▼ BREVITY—Identify by IEN-8274 if you write the maker ▼




Production engineers are "Clear Print" Wood Block Stamp Pads and Genuine inks for the best clean, sharp, fast drying impressions. To cut down on lost shipments and rejected assemblies because of poor identification use "Clear Print" for shipping room directions, stamps and parts markings. They are assured of permanently legible markings. Many bright styles are available.

- For marking on non-porous materials such as:
- WOOD, METAL, GLASS, PLASTIC, RUBBER, PAPER AND MANY OTHERS

▼ BREVITY—Identify by IEN-8275 if you write the maker ▼

**25 ways to CUT DRILLING COSTS!**

**Black & Decker Drills give you MORE OUTPUT . . .**

***Per MAN***
Large or small, all B&D Drills are perfectly balanced, weight-saving, for easier handling and less operator fatigue. Help your men produce better, with the right Drill for every job—from an unequaled choice of 39 models!

***Per HOUR***
Famous B&D-built universal motors provide full power and speed to drill more holes per hour. "Non-stalling," smashing performance goals delays, keeps your work rolling!

***Per TOOL***
B&D Drills give you more work for your money because they're built to last—with extra-tough gears, shaft and chuck spindle, powerful motors, tanks bearings!

**SEE** your nearby B&D Distributor for free demonstration, expert help in cutting costs! Write for detailed catalog to: THE BLACK & DECKER Mfg. Co., 615 Pennsylvania Ave., Towson 4, Maryland.

LEADING DISTRIBUTORS EVERYWHERE SELL

*Black & Decker*
PORTABLE ELECTRIC TOOLS

▼ BREVITY—Identify by IEN - 8277 if you write the maker ▼

**CAMBRIDGE**
INSTRUMENT COMPANY, INC.
3710 Grand Central Terminal, New York 17
Pioneer Manufacturers of
PRECISION INSTRUMENTS

---

▼ BREVITY—Identify by IEN - 8278 if you write the maker ▼

## WHICH SCAFFOLD IS BEST FOR YOUR WORK?

**ALUMINUM OR STEEL LADDER SCAFFOLDS**
Easy-to-erect, sectional equipment.

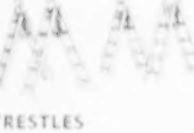


**ALUMINUM ROLLING SCAFFOLDS**
Sectional frame-type scaffolds for general use



**STEEL ROLLING SCAFFOLDS**
For access to overhead machinery, walls and ceilings.

**LADDERS**
Top-quality wood or magnesium extension, single, step ladders.



**TRESTLES**
Strong, adjustable wood trestles for painting.

**SWINGING SCAFFOLDS**
Steel or aluminum for exterior painting, glazing, repairs.

**TUBELOX**
Only four basic parts ... for storage racks and other temporary structures.

Write For Free Bulletins Describing These and Other Products For the Manufacturing Plant.
Complete Nation-Wide Scaffolding Service
WHAT YOU NEED WHERE YOU NEED IT WHEN YOU NEED IT

For Greater Safety ... Efficiency ... Economy
**THE PATENT SCAFFOLDING CO., Inc.**
DEPT. IE, 38-21 12th STREET, LONG ISLAND CITY 1, N. Y.
Consult Your Classified Telephone Directory for nearest office.

---

▼ BREVITY—Identify by IEN - 8280 if you write the maker ▼

## CONVEYING . . Pneumatic tube carries messages, money, packages

Source: INTERNATIONAL STANDARD TRADING CORP.
67 Broad St., 30th Flr., New York 4, N. Y.

**Rings** on the body of the pneumatic tube carrier ...

**A message** ...

**The pneumatic** ...

---

▼ BREVITY—Identify by IEN - 8281 if you write the maker ▼

## TESTING . . Signal generator and receiver to locate electric ground

Source: EXCEL ELECTRIC SERVICE CO.
2115 S. Western Ave., Chicago 8, Ill.

**Allen** ground detector ...

**The generator** ...

*All Makers of These and All Other Products Are Listed in THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 98*

---

▼ BREVITY—Identify by IEN - 8282 if you write the maker ▼

Uniform Belt Tension on Ryman Grinders Assured by NOPAK Cylinders and Valves ...

GALLAND-HENNING MFG. CO. ... MILWAUKEE 46, WIS.

Write for Bulletin 100

Representatives in Principal Cities

**NOPAK**
VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

---

▼ BREVITY—Identify by IEN - 8283 if you write the maker ▼

## A New EXACT WEIGHT Kit . . .

EXACT WEIGHT announces a new master set of weights for checking scales as well as packages in the plant. The complete equipment consists of a heavy duty service kit and strong carrying handle with all weights of brass finished in chrome plate as follows: fourteen 2 lb., two 1 lb., one 8oz., one 4 oz., one 2 oz., one 1 oz., one ½ oz., one ¼ oz., one ⅛ oz., two 1/16 oz. A complete precision weight outfit . . . easy to carry . . . easy to work with. For full details write for new literature just published.

**EXACT WEIGHT SCALES**
*Industrial Precision*
THE EXACT WEIGHT SCALE COMPANY
129 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

---

▼ BREVITY—Identify by IEN - 8284 if you write the maker ▼

cut costs · clean efficiently
**cold steam**

✓ no back splash
✓ blasts stubborn dirt
✓ harmless to finest finish

**HYDRO-AIR** PRESSURE WASHER $9.95

Connects to regular air and hot or cold water supply. Precise control of air and water blasts heavy dirt and grease or rinses sheets and small parts with a penetrating spray.

**D & M Products, Inc., 26 N. Raymond Ave., Pasadena 1, Calif.**

Order through your supplier or direct. The Hydro-Air washer will be sent post paid.

widely used in these industries

Air Craft
Automotive
Bakeries
Breweries
Cement
Ceramics
Cheese
Construction
Distilling
Electrical
Food Processing
Foundries
Jewelry
Leather
Meat Packing
Machine Shops
Marine
Mining Equipment
Oil & Refinery
Optical
Paper
Pharmaceutical
Public Utilities
Repair Services
Railroad
Rubber
Ship Building
Stone Polishing
Textile
Tobacco
Transportation

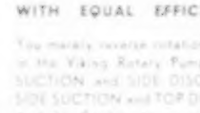
---

▼ BREVITY—Identify by IEN - 8285 if you write the maker ▼

DON'T RISK A CHANCE OF BEING CONFUSED!

WITH EQUAL EFFICIENCY! . . . EQUAL ACCURACY!

You merely reverse rotation of pump shaft to reverse flow of liquid in the Viking Rotary Pump. Figure at left shows pump with TOP SUCTION and SIDE DISCHARGE ... at right, after reversing, SIDE SUCTION and TOP DISCHARGE. Simple and practical isn't it? And this flexible, time-saving feature makes Viking the ideal pump for handling all types of clean liquids. Bulletin 505F shows you how the "2 in 1" Viking Pump can cut pumping costs and time. Write for a copy.




**Viking** PUMP COMPANY
Cedar Falls, Iowa

▼ BREVITY—Identify by IEN-8286 if you write the maker ▼

*32 Pages of Helpful Information on Dust Recovery Systems*

If you are now using dust or fly ash recovery equipment in your plant, or are planning installation of such equipment now or later, you will find this new Multiclone booklet full of helpful information. Illustrations and diagrams outline basic principles of dust recovery and how to utilize them for maximum efficiency ... how to simplify your installations ... how to conserve valuable plant space ... how to get high recovery over a wide range of particle sizes, etc. **A copy of this booklet should be in your files for reference and assistance in dust recovery applications. A free copy will gladly be sent you on request. Write today while supplies are adequate.**

**WESTERN Precipitation CORPORATION**

---

▼ BREVITY—Identify by IEN-8287 if you write the maker ▼

# Now! A CHECK VALVE that will not leak

CIRCLE SEAL check valves guarantee you

- absolute sealing
- minimum resistance to flow
- maintenance-free dependability
- quiet, chatter-free operation

CIRCLE SEAL DATA

WORKING PRESSURES

FLUIDS

TEMPERATURES

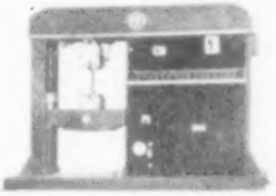
**CIRCLE SEAL**
Check Valves
JAMES-POND-CLARK
1247 EAST GREEN ST., PASADENA 1, CAL.

---

▼ BREVITY—Identify by IEN-8289 if you write the maker ▼

## TESTING . . Motor driven machine, load ranges to 15,000 and 30,000 lb.

Source: NATIONAL FORGE & ORDNANCE CO.
49 Front St., Irvine, Warren Co., Pa.



Tension, compression, flexure and shear tests may be made with this new universal machine. ...

Loading is mechanical ...

---

▼ BREVITY—Identify by IEN-8290 if you write the maker ▼

## ADHESIVE . . Synthetic emulsion bonds vinyl sheet to porous surfaces

Source: THOMAS W. DUNN CO.
Pearl & Dover Sts., New York 7, N. Y.

28 to 30 cents per pound in 55 gal. drums

Vinyl-Hesive ...

---

▼ BREVITY—Identify by IEN-8291 if you write the maker ▼

## HANDLING . . Collapsible steel box stores and handles materials and parts

Source: PHILLIPS MINE & MILL SUPPLY CO.
2300 Jane St., Pittsburgh 3, Pa.

Phil-Box Model ...

*All Makers of These and All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 44*

---

▼ BREVITY—Identify by IEN-8293 if you write the maker ▼

# SPEED UP SMALL PARTS ASSEMBLY

IMMEDIATE DELIVERY
Manufactured and sold in Canada exclusively by Wickware-Stackbin Ltd., Ottawa
Write Stackbin Corp., 1077 Main Street, Pawtucket, R. I.

**STACKBIN SYSTEM** "Stacked and Still Accessible"

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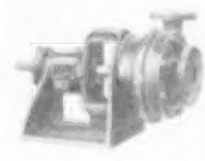
▼ BREVITY—Identify by IEN-8294 if you write the maker ▼

# YOUR "Just-Right" PUMP



is among these 10,000 combinations

No more compromising with a pump that isn't *just right* for the job.

From Worthington's vast selection of standard centrifugal pumps—you're sure to find the one that meets your specifications exactly.

No other line of pumps is so complete—capacities from 10 to 1800 gpm, heads to 535 ft, 40 sizes of casings, 200 combinations of frame mounted designs—10,000 combinations in all!

*See Your Worthington Distributor*

**WORTHINGTON**

Worthington Pump and Machinery Corporation, Pump and Compressor Mfg. Handling Division, Harrison, New Jersey

*The Good Right Hand of Industry*

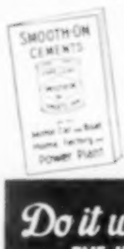
---

▼ BREVITY—Identify by IEN-8288 if you write the maker ▼

A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.

## If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired part is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Buy it in 7 oz., 1, 5, 20, or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.




## FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other Smooth-On Cements. Leaks stopped, cracks sealed, loose parts made tight. 170 illustrations. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

**Do it with SMOOTH-ON**
**THE IRON CEMENT OF 1000 USES**

---

▼ BREVITY—Identify by IEN-8292 if you write the maker ▼

# PAGE FENCE —Since 1883

• AMERICA'S FIRST WIRE FENCE •

## *Fence* ~~MEN~~ AT WORK

• Yes, Page Chain Link Fence works day and night as protector of persons and property against common hazards. In your industry protective requirements are exacting. Needs vary according to location and conditions. For you we have a valuable new booklet and detailed data on the several styles of Page Fence and Gates and the choice of metals available. It tells why you can expect the best of fence engineering and erection service from the long-experienced Page Fence specialist near you—a firm which knows local conditions. Name and address will be sent with your booklet DH-142. May we send you a copy?

*Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, Pittsburgh, New York or San Francisco.*

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

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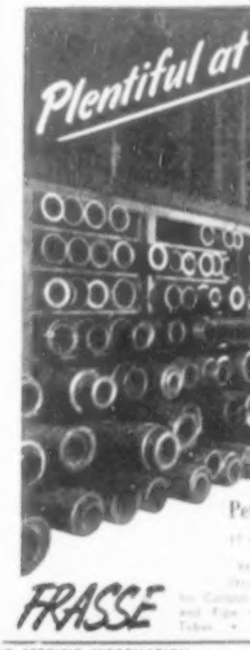
▼ BREVITY—Identify by IEN-8295 if you write the maker ▼

# Steel Tubing is *Plentiful at FRASSE*



There's plenty of tubing to choose from when you work from Frasse stocks! You'll find a complete range of welded and seamless tubing in *all* Frasse warehouses—ready for immediate delivery to your plant.

Stock sizes range from 3/32" O.D. all the way up to 24" O.D., in wall thicknesses from .022" to 1". With well over 1200 sizes on hand to choose from, Frasse is a safe bet to have the size required by your specifications.

Broad selection, speedy availability, and practical engineering collaboration: it all sums up to Frasse for mechanical tubing. For a quotation, or tube engineering on your requirements, call

Peter A. FRASSE and Co., Inc.
17 Grand Street, New York 13, N. Y.
WAlker 5-2200
Philadelphia • Jersey City • Buffalo
Syracuse • Hartford • Rochester • Baltimore

*FRASSE*

for Carbon Mechanical Tubing • Stainless Tubing and Pipe • Condenser, Hydraulic and Pressure Tubes • Tubing to Aircraft Specifications

BREVITY—Identify by IEN - 8296 if you write the maker

SAVE MONEY SAVE TIME with JOHNSON GP BEARINGS

FROM OVER 850 stock sizes you can select nine out of ten of your bearing needs — either for product or for maintenance. Johnson General Purpose Bearings and Bushings are available from distributors and warehouse stocks from coast to coast. Large production runs assure low unit cost — no pattern costs — no special machine setups. The Johnson Bronze Catalog lists all sizes available. Write today for your copy.

Johnson Bronze
SLEEVE BEARING HEADQUARTERS
476 SOUTH MILL STREET • NEW CASTLE, PA.

BREVITY—Identify by IEN - 8297 if you write the maker

SOLVES PROBLEM with oil-free air from GAST compressor

REQUEST YOUR COPY OF "APPLICATION IDEAS" BOOKLET— ALSO GAST CATALOG

"AIR MAY BE YOUR ANSWER"

PROBLEM. [illegible]

SOLUTION. [illegible]

RESULT. [illegible]

GAST ROTARY — AIR MOTORS · COMPRESSORS · VACUUM PUMPS

BREVITY—Identify by IEN - 8298 if you write the maker

DELTA MILWAUKEE

Tool Grinder with Twin-Lite® Safety Shields

The grinder with built-in goggles — typical of extra safety and extra value from DELTA the most complete grinder line

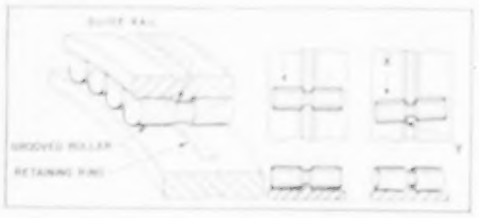
Send coupon for facts on all Delta machines!

DELTA POWER TOOL DIVISION
Rockwell Manufacturing Company
6146 East Vienna Avenue
MILWAUKEE 1, WISCONSIN

BREVITY—Identify by IEN - 8299 if you write the maker

## BEARING . . Cageless roller design has center guide rail in outer race

Source: McGILL MFG. CO.
100 N. Lafayette St., Valparaiso, Ind.




**Guiderol** is a new designed roller bearing in which a center guide rail, integral with the outer race, holds the rolls in place and also corrects any tendency of the rolls to cock because of shaft misalignment. Normally the rolls ride on a true axis out of contact with the rail. The binding end as at Y in the illustration is retarded when a roll is out of line and contact is made with the rail so roll rotation in the direction indicated at X.

**The bearing** is available with an inner race in bore diameters from ⅝ to 8 inches. Load capacity is 2,880 to 128,670 lb based on 100 rpm. Width of the outer race is ⅝ to 3 inches. It is made also for direct contact with the shaft to omit the inner race. In this design the shaft size ranges from ⅝ to 9½ inches. Load capacity is the same as for the bearing including the inner race. In both cases a snap ring applies on the inner race or on the shaft to ride free in the roll grooves.

**Bulletin GR-50**, 32 pages, presents illustrations and drawings to show construction, includes description, capacities.

BREVITY—Identify by IEN - 8300 if you write the maker

## SAWING . . Band saw machine feeds down to cut, rates 14 by 18 in.

Source: W. F. WELLS & SONS
Highway 131, Three Rivers, Mich.

List price is $1,250 for this new Model D machine in the company's line of band saw machines in which the motor-driven head rides two vertical columns. The head rises to clear 20 in. under the blade. It feeds downward, using hydraulic control for adjustment of pressure on the work. A clock stop moves out and up to prevent blade injury. A rotating blade brush clears chips from between the blade teeth and from the sides. Coolant equipment is standard so the machine can be used wet or dry interchangeably.

**Work is held** in a vise that can be swivelled to 45 deg. in either direction. Blade speeds at 175 in/min. Width is 2 inch. Cuts to 18½ inch. Operating speed is 60, 90 and 120 fpm. Floor space dimensions 22 by 78 inches. A chip pan can be specified at an additional list of $30. Motor drives back shown in place in the illustration, table 8300. If you be not to use square cutting 8½ by 20 inches.

All Makers of Items and All Other Products Are Listed in THOMAS' REGISTER — Heavy Industry — Ratings — See Page 10

BREVITY—Identify by IEN - 8301 if you write the maker

MULTISTAMP STENCIL DUPLICATOR

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR for
Shipping Tag Addressing
POSTCARD PRINTING
CODE MARKING
BOX MARKING

BREVITY—Identify by IEN - 8302 if you write the maker

The KENT Combination
Dry Suction Cleaner and Electric Mopper

★ FOR DRY PICK-UP
★ FOR WET PICK-UP

WITH THE KENT FLOOR MACHINE, the KENT Combination makes the perfect "Fast Cleaning Team"!

Write for Literature to:

CLEAN WITH KENT EQUIPMENT

THE KENT COMPANY • 437 CANAL ST. • ROME, N. Y.

BREVITY—Identify by IEN - 8303 if you write the maker

GENERAL CONTROLS puts data where it's needed... fast

with Pressure-Sensitive
KUM-KLEEN LABELS

[illegible]

KUM-KLEEN LABELS are applied without moistening of the adhesive and stick and stay stuck, without jumping or curling, even through extremes of heat and humidity. They [illegible]. The [illegible] quality line of KUM-KLEEN Labels is [illegible] for [illegible] purposes.

To [illegible] information, [illegible] samples, [illegible] and also [illegible] KUM-KLEEN Labels.

Kum-Kleen

SEND FOR DETAILS AND SAMPLES
Address Dept. IEN-9
AVERY ADHESIVE LABEL CORPORATION
[illegible]

BREVITY—Identify by IEN - 8304 if you write the maker

The World's Most Efficient CONCRETE DRILL

THE TILDEN ROTARY KONKRETE KORE DRILL

[illegible]

- Drills at 2 to 6 inches per minute
- Drills reinforcing bars and beams in concrete
- Drills up to 30 feet of concrete without unsharpening
- Gives straight, clean holes for anchors, conduit, etc.
- Uses ordinary electric drill

[illegible]

[illegible]

Write today for catalog with complete details on these revolutionary concrete drill bits.

TILDEN TOOL MANUFACTURING COMPANY
1993 NO. FAIR OAKS, PASADENA 3, CALIFORNIA

▼ BREVITY—Identify by IEN-8305 if you write the maker ▼

## Touch it and it bleeds — OIL!

OIL-saturated felt bleeds at a touch, delivering oil where and as needed. This is an effect of oil storage capacity and capillary action, important qualities in felt wick lubrication and felt seals. Shown below is an Oilfoil seal, a sandwich of two layers of felt and two impervious septums of Hycar, the whole firmly bonded. Such seals are made by American Felt to exact dimensions, and with one to three septums. They assure positive lubrication and retention of lubricant. For illustrative samples and complete technical information, write for Data Sheet No. 11, "Felt Seals, Their Design and Application". This is the authority on the subject.

**American Felt Company**

GENERAL OFFICES
18 GLENVILLE RD.
GLENVILLE, CONN.

▼ BREVITY—Identify by IEN-8306 if you write the maker ▼

## GUIDED PALLET CONVEYOR* . . Combines quality control and speed on production line

Source: The RAPIDS-STANDARD COMPANY, Inc.
353 Rapistan Bldg., Grand Rapids, Mich.

A radically different approach to production line problems — the new Guided Pallet Conveyor permits line work-assembly, at greater speed, and at lower cost than ever before. Damage to products is virtually eliminated and work-operation is reduced. Well within the reach of any plant, this new method of system is quickly adaptable to many varying assembly, processing and finishing operations. Most of the Guided Pallet lines consist of two-and gravity conveyor. All work points (illustration) provide work stations (available) allow position options to customize each installation.

The new Guided Pallet Conveyor system allows a workman to fill his two-or more A-Shaft work cases in his station. This insures fine quality and still keeps production time to average rate or speed with which the operation line is loaded. With the Guided Pallet Conveyor, the pace is fixed on the product. New features are highly exact and variety, whenever needed, actually —[illegible] pallet checkpoints. Line-stoppage has become an thing of the mechanical of a set time limit.

Although Guided Pallet Conveyor permits variable processing time, the average production speed of a station is increased, because handling forces are eliminated. The one Rapistan line which Guided Pallet Conveyor has been installed has longer runs and are now applied parts for our workmen. Thus by two workers [illegible] the old system.

Original investment for Guided Pallet Conveyor is less than half that of other types and installation cost is approximately 75% lower. The line can be installed quickly without interruption of normal production.

Guided Pallet technical information and typical application photographs may be obtained by writing to The Rapids-Standard Company, Inc.

*To determine Guided Pallet application in your plant, consult your Rapids-Standard representative.*

**Rapistan® MATERIAL flow EQUIPMENT**

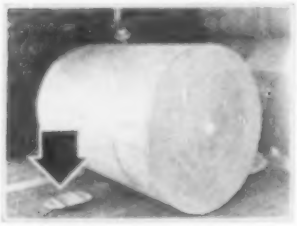
*Pat. Pend.

353 Rapistan Bldg., Grand Rapids, Mich.

▼ BREVITY—Identify by IEN-8308 if you write the maker ▼

## HANDLING . . Portable turntable, ball bearing, 28 pounds, rates 5 ton

Source: ENGINEERING PRODUCTS CO.
120-24 S. Michigan, Chicago 3, Ill.



New turntable provides a means to turn heavy and bulky rolls also objects on a vertical axis with negligible effort. The unit is made of alloy steel, measures 18½ in. in length by 10 in. in width and stands 2¼ in. in height at the base of two raised projections which operate as indicators to center a load.

The top plate is mounted on ball bearings riding a circular track a little less than 8 in. in diameter in the base plate. The two plates are assembled with a king pin at the center. In the top plate are two hand-grip openings with which the table can be picked up and moved to a new location.

▼ BREVITY—Identify by IEN-8309 if you write the maker ▼

## CONVEYING . . Stainless steel belt in endless assembly as specified

Source: METALSMITHS DIV.
558-62 White St., Orange, N. J.

For foods, plastics, rubber, ceramics

Stainless steel strip is fabricated to specification in a new service developed by the company to supply stainless conveyor belts for given requirements. Welded assemblies are finished smooth with the welds flat. Surfaces can be polished. Doctor blades scrape the belt clean at the feed point.

▼ BREVITY—Identify by IEN-8310 if you write the maker ▼

## PULLING . . Flexible packing hooks remove old packing from stuffing boxes

Source: GARLOCK PACKING CO.
50 Garlock St., Palmyra, N. Y.

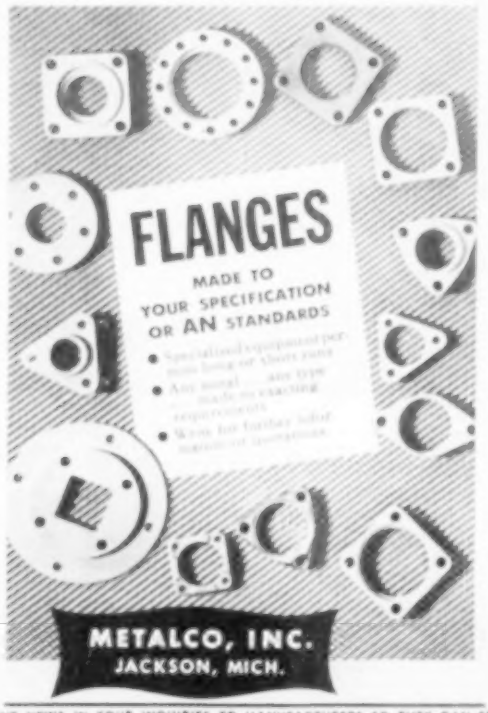
The shanks of these new packing hooks are made of a short piece of flexible shaft. At one end is a T handle and at the other end is a steel screw-type hook that can be turned into a piece of packing to grip it for removal. The shanks bend readily to get deep into a stuffing box.

**Set A** of two sets contains one flexible hook 60¼ in. in length, two measuring 19¾ in., two measuring 13¼ in. and one double end 12-in. packing hook with a hook at one end and a pick at the other end.

**Set B** is the same as Set A except that a solid 8-in. hook takes the place of the 60¼ in. flex-hook and Set B is packed in a wood carrying case.

*All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BREVITY—Identify by IEN-8311 if you write the maker ▼




▼ BREVITY—Identify by IEN-8312 if you write the maker ▼

## HANNIFIN AIR PRESSES

1. Minimum Investment!
2. Less Effort!
3. More Output!

### 59 Models — 1/2 Ton to 18 Tons

FOR fast, efficient, low cost production with a minimum investment in equipment, Hannifin Air Operated Presses can't be beat for countless pressing, broaching, molding, staking, marking, bending, punching, forming, oil grooving, coining, keyway cutting, and assembly operations.

HIGH SPEED, EFFICIENT—Effortless speed through new instant-acting valves. Use ordinary shop air supply.

EVERY WORK CONVENIENCE—Finest Hannifin engineering and construction. Send for descriptive bulletin. HANNIFIN CORPORATION, 1101 So. Kilbourn Ave., Chicago 24, Illinois.

**HANNIFIN**
*Air Operated Presses*

▼ BREVITY—Identify by IEN-8313 if you write the maker ▼

New *Super-Powered* IDEAL "Hand-Type" CLEANER

BLOWS . . . . concentrated blast of air up to 300 miles per hour. Blows grit, dust and lint from hard-to-get at places. Evaporates moisture.

VACUUMS . . . dirt, metal, lint and wood particles, hearty litter, etc.

SPRAYS . . . paint, varnish, lacquer, insecticides and deodorants.

Regardless of your cleaning problem, the IDEAL Cleaner can do it better—faster. Has 1/3 H.P. motor. Weighs only 14½ lbs. Today's top value. Also 1/2 and 1 H.P. models.

Sold through America's Leading Distributors.

CLIP AND MAIL TODAY

IDEAL INDUSTRIES, Inc.
1106 Park Avenue, Sycamore, Illinois

Give us a FREE DEMONSTRATION of the IDEAL "Hand-Type" Cleaner in our plant.

NAME
COMPANY
ADDRESS
CITY ZONE STATE

▼ BREVITY—Identify by IEN-8314 if you write the maker ▼

PYLE-NATIONAL INDUSTRIAL LIGHTING FIXTURES

*for safety* IN HAZARDOUS LOCATIONS

EXPLOSION PROOF

Pyle-National H Series: Class I, Groups C and D

For use in locations where highly flammable materials are manufactured or handled.

Rugged, three-light cast aluminum alloy housings resist corrosive atmospheres and have safe operating temperatures. Protective combination panels easy access to interior for wiring and lamp replacement. Available in many types and sizes.

DUST-TIGHT

Pyle-National DI Series: Class II, Groups E, F and G

For use in locations where flammable dusts are present in quantity.

Strong, one-piece cast aluminum alloy housings are designed to exclude dust from the interior and to avoid accumulation of dust on the exterior surface. Available in many types and sizes.

Consult the new PYLET Catalog for complete line of explosion-proof supporting PYLETS for lighting fixture mounting.

**THE PYLE-NATIONAL COMPANY**
1348 NORTH KOSTNER AVENUE CHICAGO 51, ILLINOIS
District Offices and Representatives in Principal Cities of the United States.

PLUGS AND RECEPTACLES • FLOODLIGHTS • CONDUIT FITTINGS

FREE FIT—Identify by IEN-8315 if you write the maker

So Simple Anyone can

ENGRAVE

on Plastic

and Metal

new hermes engravograph

- Multiple Tracing Arm. Engraves more than 15 sizes from ONE template
- Covers a larger engraving area than any other portable unit of its kind
- Ideal for any lettering

Send for Booklet Model 2M

NEW HERMES, INC.
Dept. No. 21
119 UNIVERSITY PL., N.Y. 3, N.Y.

FREE FIT—Identify by IEN-8316 if you write the maker

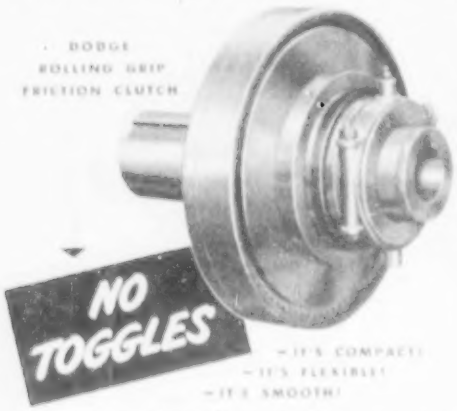
The DRY SCRUBBER with the

*Self-Sharpening* BRUSH FEATURE

*Just flip the switch!* That reverses the motion of the brushes of the *Finnell* Dry Scrubber and re-sharpens them automatically. Eliminates the need for frequent changing of brushes by hand in order to maintain a good cutting edge. This heavy duty *Finnell* cleans grease-caked floors in about one-tenth the man-hour time required when hand-spudding, and is far more thorough. Floating brush rings enable the two powerful scarifying brushes to get into indentations and grooves that rigid coupling brushes pass over and miss. The machine is adaptable to wet scrubbing, steel-wooling, waxing, and polishing. For free Bulletin, consultation or literature, phone or write nearest Finnell branch or Finnell System, Inc., 9500 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.
*Pioneers and Specialists in*
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES
BRANCHES IN ALL PRINCIPAL CITIES

FREE FIT—Identify by IEN-8317 if you write the maker




Another Factory "First" by Dodge. New compactness. New flexibility. New ease of control. Action is positive, smooth, dependable. Available from stock in sizes from 1/2 to 20 H.P. at 1800 R.P.M. Operating parts are completely enclosed for safety. Free universal adjustment. Selection of right size is easily achieved at Dodge Distributor Selection Tables. Write for catalog 100-D.

DODGE MANUFACTURING CORPORATION, 570 UNION ST., MISHAWAKA, IND.

DODGE

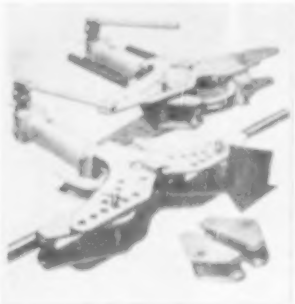
A of Mishawaka, Ind.

FIRST IN POWER TRANSMISSION MACHINERY

FREE FIT—Identify by IEN-8318 if you write the maker

BENDING . . Hydraulic machine hand or power, makes 180-deg. pipe bend

Source: TAL BENDER INC.
415-19 N. Water St., Milwaukee 2, Wis.



New roller equipped attachment has been developed for the company's hydraulic pipe-bending machine to make 180-deg. bends in 2, 3 or 4 in. pipe by a single operation starting with a straight length. The attachment can be supplied for use on machines now in service or as an accessory with new machines. With new attachment standard return bender is used without supplementary equipment.

An adjustment is made to vary where the attachment is positioned to engage guide provided, supplied for this bending operation. It is particularly valued for refitting bends engaged to rail and bending pipe where the bends are made on the field.

FREE FIT—Identify by IEN-8319 if you write the maker

STRIPPING . . Clear liquid solvent loosens paint, varnish for removal

Source: HILLYARD CHEMICAL CO.
400-4 N. 3rd St., St. Joseph 1, Mo.

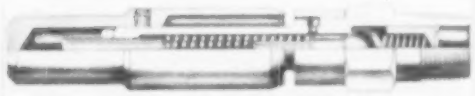
Completes action in 10 to 15 minutes

Kurl Off is a new non-inflammable liquid to spread over a surface from which paint or varnish is to be removed. It can be applied on metal or wood surfaces, will not raise the wood grain, is non-corrosive and non-toxic. No after-rinse is required prior to repainting.

FREE FIT—Identify by IEN-8320 if you write the maker

SIGNALING . . Air operated whistle blows on pressure drop in air line

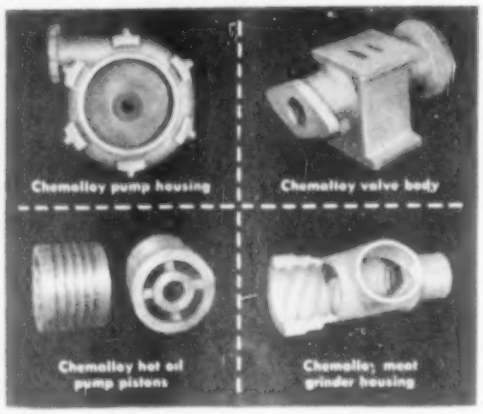
Source: AIRLARM
P. O. Box 13034-A, Houston 19, Texas.



New valve equipped whistle installed in an air line where it is important to have warning of loss of pressure in the line. The valve remains closed as long as the pressure holds. If there is a predetermined drop, pressure air is escape through the whistle and sound the warning. The valve will close again when pressure has been restored. Pipe connection includes 1/2-in. thread, length 3-1/2 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FREE FIT—Identify by IEN-8321 if you write the maker




*To Combat* CORROSION
. . . Specify CHEMALLOY*

Chemalloy is not just one alloy, but a group of alloys each developed to resist corrosive conditions. Wherever your corrosion problems require stainless, Nu-Resist,* or other high alloys, investigate Chemalloy. Write for Bulletin 1-1-1. Electro-Alloys Division, 1944 Taylor Street, Elyria, Ohio.

*Reg. U. S. Pat. Off.

AMERICAN Brake Shoe COMPANY

ELECTRO-ALLOYS DIVISION
ELYRIA, OHIO

FREE FIT—Identify by IEN-8322 if you write the maker

QUICK ACTING
*Saves Time At Every Operation*

EVERLASTING Valves give you the quick action you need in many valve services. They open and close with less than a quarter turn of the operating lever . . . and the operation is easy because of the simple leverage.

And that's only one of the many advantages of the unique EVERLASTING design . . . proven by more than 40 years on the market. Its drop-tight seal is kept leak-proof because of the self-lapping action of the disc rotating over the seat each time the valve is opened or closed . . . Its straight-through flow minimizes pressure loss through the valve . . . Its non-wedging action prevents sticking . . . and it requires no lubrication.

With all these advantages, you have an "everlasting", ever-tight, ever-satisfactory valve that is literally unequalled for many services as process lines, emergency shut-offs, equipment outlets, boiler blow-off, fire protection, etc., and suitable for practically all fluids.

Write for descriptive bulletin.

EVERLASTING VALVE CO., 49 Fisk Street, Jersey City 5, N. J.

Everlasting Valves

*for everlasting protection*

FREE FIT—Identify by IEN-8323 if you write the maker

Oil Resistant Rubber Parts

- Featuring LONG LIFE and MINIMUM SWELL, gaskets, sleeves, washers, tubing and extruded cross-sections now are available fabricated from new oil and gasoline-resistant rubber compounds. These compounds have been developed especially to resist the chemical action of petroleum products and their derivatives as well as industrial and commercial lubricants.

The new compounds can be fabricated into precision parts intended for such applications as fuel hose, dust covers, filters, vibration dampeners, etc.

STALWART Custom Fabricated oil and gasoline-resistant rubber parts can be supplied to meet S.A.E. or individual specifications, to withstand extreme pressures, deflections, etc., hot chemical processes and many other operations.

WRITE FOR CATALOG

THE STALWART RUBBER CO.
2032 NORTHFIELD RD., BEDFORD, OHIO
CUSTOM RUBBER FABRICATORS

FREE FIT—Identify by IEN-8324 if you write the maker

for POSITIVE, PERMANENT LEAK-PROOF CONNECTIONS
*nothing compares*
*with*
RECTORSEAL

There's a RECTORSEAL thread and gasket sealant for every requirement. It's a proved thread sealant, easy to apply, economical. Try the sealant to provide long, trouble-free, leak-proof connections.

RECTORSEAL NO. 2
For sealing oil, petroleum gases and liquids . . . gas distribution systems, gas appliances, manufacturing gasoline, heating equipment, power fuel, and all home work, including heating and air conditioning.

RECTORSEAL NO. 5
For sealing in High Pressure Steam, Gaseous Alkalis, Boiling Acids, Alcohol.

RECTORSEAL NO. 10
For sealing in Oxygen Lines.

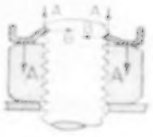
Write Dept. N
RECTORSEAL, 2219 Commerce St.
Houston, Texas

Write for a free sample.
Test it yourself.

RECTORSEAL
PATENTED TRADE MARK REG. U. S. PAT. OFF.
Manufactured by RECTOR WELL EQUIPMENT CO., INC.
Fort Worth, Texas

▼ REQUEST—Identify by IEN-8325 if you write the maker ▼

With an ordinary nut carrying the load, and a PALNUT to keep it tight, you have a powerful fastening team that looks secures when tone and sense, except to provide absolute security, whenever bolt-and-nut assemblies must stay tight. Low in cost, light in weight, require small space, apply quickly with hand or power drivers. Full range of sizes, materials and finishes. Write for detailed literature.



**The PALNUT Co.**
71 Cordier St., Irvington 11, N. J.

▼ REQUEST—Identify by IEN-8326 if you write the maker ▼

## YOU CAN BE SURE OF UNIFORM

# *Quality*

## IN BRIGGS & STRATTON ENGINES

The most modern machines and tools for volume production with watch-like precision (many of them developed by Briggs & Stratton engineers), plus constant check and rigid inspection, are used to maintain uniform quality to meet the high exacting standards established by Briggs & Stratton — the result of the engineering and manufacturing experience gained in more than 32 years of continuous production, and the building of more than 4½ million single-cylinder, 4-cycle, air-cooled gasoline engines.

BRIGGS & STRATTON CORPORATION
Milwaukee 1, Wisconsin, U. S. A.

Wheel Horse Factory Equipped Engines — Pulsamat Power Tiller Factory Equipped Engines

4 CYCLE BRIGGS & STRATTON GASOLINE ENGINES

In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

▼ REQUEST—Identify by IEN-8328 if you write the maker ▼

## CONTROL . . Throttle positioner for truck engine to drive takeoff pump

Source: STRATTON EQUIPMENT CO.
1948 Hanna Bldg., Cleveland 5, Ohio

Hydro-Throttle is a self-contained unit designed to apply the engine throttle on truck equipped with power takeoff pump. It is a hydraulic piston, actuated by the pump pressure, to operate the throttle. The unit is fully self-contained, requiring no operation other than the necessary adjustments on the unit. The unit is mounted on the truck frame, and connected to the engine throttle and hydraulic pump by the operator only. It is easy to install.

Pressure indicator on the pump line, which is the only control required, keeps the engine throttle at a constant speed, dependent on the pump. The pump is KEC 15.

▼ REQUEST—Identify by IEN-8329 if you write the maker ▼

## MUFFLER . . Exhaust silencer for truck engines from 150 to 300 hp.

Source: DONALDSON CO.
664-68 Pelham Blvd., St. Paul 4, Minn.

**Back pressure is negligible**

Two designs for vertical and horizontal installations are offered. Each is made in three sizes of mufflers for operation with diesel engine [illegible]. The vertical unit measures 14 in. by 16 in. in body length. The horizontal design measures 16 in. by 15 in. in total length. Both are made of aluminum alloy for conservation of components.

The company is prepared to furnish any coupling assemblies in accordance with the muffler requirements for any diesel-powered engine and then to design and assemble it.

▼ REQUEST—Identify by IEN-8330 if you write the maker ▼

## HOIST . . Hand operated chain design rates 1 ton with chain pull at 65 lb.

Source: MANNING, MAXWELL & MOORE INC.
408 Broadway, Muskegon, Mich.

**Endless chain** riding over a sprocket provides the operator the means for this new chain hoist. The sprocket connects through gearing and a load brake to the load-chain sprocket. The load chain operating over this sprocket can be specified for required lengths to provide a desired lift range. The hoist measures 15 in. between hooks in minimum-lift position. It weighs 42 pounds. Chain standard to raise the load one foot is 31 feet.

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 38

▼ REQUEST—Identify by IEN-8331 if you write the maker ▼

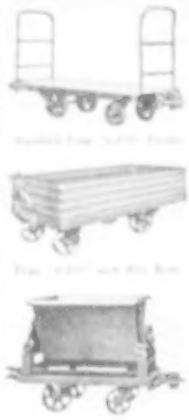
No. 5821 FIRM-GRIP
No. 5615 SMOOTH
LENGTH: 14 inches
GAUGE: [illegible]
COLOR: Brown
SIZES: 10-11-12

*Required weight and specifications

SEIBERLING LATEX PRODUCTS COMPANY
AKRON 9, OHIO

▼ REQUEST—Identify by IEN-8332 if you write the maker ▼

# MERCURY "A-310"
## INDUSTRIAL TRAILER



OVER 250,000 NOW IN USE

Over 250,000 Type "A-310" units are now performing a variety of your transportation jobs—more by such prominent of this series, the unit.

Standardized to every essential that assures long life, low cost, easy maintenance, the "A-310" incorporates the following features: Frame and beam: Self-bearing castings; rubber-tired, roller-bearing wheels; heavy axle and trackers.

While standardized to avoid "A-310" flexibility it design permits with minimum of conversion and cost to meet your particular requirements.

Submit blueprints or your trailer requirements for Mercury specimen. Or, if you prefer, request Bulletin A-300.

MERCURY MANUFACTURING COMPANY
4133 S. Halsted St.
Chicago 9, Ill.

MERCURY

TRACTORS • TRAILERS • LIFT TRUCKS

▼ REQUEST—Identify by IEN-8333 if you write the maker ▼

# SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

▼ REQUEST—Identify by IEN-8334 if you write the maker ▼

## POWER *Wherever You Turn!*

This WISCONSIN HEAVY-DUTY *Air-Cooled* ENGINE Mounts on the Steering Wheel!

Moving 4000 lbs. at a road speed up to 20 mph, and maneuvering into any under the truck will [illegible] of one gallon of gas per 8 hour shift. The record of this Wisconsin-powered Hydro Industry Turret Truck, made by The Hydro Co., Portland, Ore.

New and unusual industrial power jobs are being introduced by manufacturers every day, in which Wisconsin Engines are designed as the logical power choice. Wisconsin Engines combine with no long competitors, light weight and heavy-duty construction, plus best good air-cooling at all seasons — combine to give Wisconsin Engines preferential consideration on power requirements on a great variety of original equipment.

Your inquiry is invited. 4-cycle, single-cylinder, two-cylinder and V-type 4-cylinder types, 2 to 35 hp.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46 WISCONSIN

▼ BRIEFITT—Identify by IEN-8335 if you write the maker ▼

## LANSING *All Steel Trailer*

Built to stand up under the most severe sling-load work. Strongly built, reinforced. Platforms 3 x 6 ft. Hyatt Bearings. Capacity 2 tons, weight 300 lbs. Special Lansing coupler.

WRITE or WIRE FOR CURRENT LOW PRICES and information on Full Line

LANSING COMPANY

TRUCKS • TRAILERS • BARROWS • CASTERS • CARTS • ETC.

*"Keep Your Products on Wheels"*

Main Office and Factory
LANSING, MICHIGAN

▼ BRIEFITT—Identify by IEN-8336 if you write the maker ▼

## LIFT OR LOWER – FLOOR TO FLOOR

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — economically with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft. floor clearance of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15¾ inches to 25¾ inches wide. Electric motor operated. Write for Bulletin No. IEN-90.

Standard Conveyor Company
North St. Paul
Minn.

Sales and Service in Principal Cities

Standard
GRAVITY & POWER CONVEYORS

▼ BRIEFITT—Identify by IEN-8337 if you write the maker ▼

Gives you a quick, easy method of determining what metal alloys to use in connection with 143 different corrosive agents. Ideal for metallurgists, product designers, engineers, chemists, purchasing agents. Sized to fit your pocket. Developed by The H. M. Harper Co., America's leading specialist in non-ferrous and stainless steel fastenings.

FREE
MAIL COUPON TODAY

The H. M. Harper Company
8201 Lehigh Avenue, Morton Grove, Ill.
Please rush my free copy of the Harper Computer of Corrosion Resistance.
Name
Company
Address
City State

▼ BRIEFITT—Identify by IEN-8338 if you write the maker ▼

## MARKING . . Self-adhesive tape, transparent plastic over carbon paper

Source: WILL CORP.
27-41 Russell St., Rochester 3, N. Y.

**Labelon** is a new tape that is made with an adhesive-backed carbon paper in which the carbon side faces outward and is covered with transparent plastic. The tape adheres to a surface without having to moisten it. Markings appear on the reverse face of the plastic that is in contact with the carbon when the outside face of the plastic is marked on with a pencil or stylus. The marking cannot be obliterated by rubbing since it is not exposed.

**The tape** is made in ¾, ⅞ and 1 in. widths and in 300-in. lengths. It is supplied in a small dispenser with a cutting edge. It adheres strongly but can be stripped. Application can be made on surfaces of metal, plastics, glass.

▼ BRIEFITT—Identify by IEN-8339 if you write the maker ▼

## PROTECTING . . Canvas safety shield, wire cloth reinforced, guards worker

Source: SAFETY FIRST SUPPLY CO.
423-27 Magee St., Pittsburgh 19, Pa.

The canvas is
fire proofed
mildrew proofed

**Spa Fla** is a new combination of wire cloth and canvas that can be formed to shield some around a job to protect a worker to scatter flying sparks, chips, grindings, are wood flash and to stop wood and wire glass on outside operations. It is made in two stock sizes measuring 36 and 44 by 72 in. but other sizes can be made. Supporting racks are available.

▼ BRIEFITT—Identify by IEN-8340 if you write the maker ▼

## WOOD WORKING . . Sawing attachment applies 3 in. blade on portable drill

Source: CLAYTON DISTRIBUTORS INC.
12546-50 Ventura Blvd., North Hollywood, Calif.

**Minisaw** is a new tubular saw attachment for application on a Black and Decker ½ in. Minisaw portable drill mounted in 1,000 stand or chucked in the illustration. The cross-cutting table of a drill with stand converts to 3 in. The attachment includes a [illegible] for angular cuts to 45 degrees. There is also a [illegible] and a fitting table to supply with it. List price is $30.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30*

▼ BRIEFITT—Identify by IEN-8341 if you write the maker ▼

## *PRINTWEIGH STOPS LOSSES!*

ELIMINATES HUMAN ERRORS IN READING REMEMBERING AND RECORDING WEIGHTS

PRINTWEIGH SCALES are the *reliable printed record* of each weighing operation — positive assurance that your weight facts are right *every time!* Prints big, clear figures — on duck tickets — on large or small sheets — on strips — with extra copies. Saves time, stops losses for receiving, shipping, stock rooms, batching and many other weighing operations. Write for bulletin 2021. Toledo Scale Company, Toledo 12, Ohio.

# TOLEDO

HEADQUARTERS FOR SCALES

▼ BRIEFITT—Identify by IEN-8342 if you write the maker ▼

## *YES!* You Can Cut Your Material Handling Costs *IN HALF...*

If You Answer *"NO"* to Over *4* of These Questions!

Many companies have discovered that material handling from receiving through production and shipping can be cut in half by using Automatic Electric Trucks. "RIBBON COATS" are the cost of these proved — if you answer less than [illegible] in simple questions, there may be a way for money saving here. There's no obligation.

1. Do you know how many to and workers are engaged in manual lifting, moving and handling of materials?
2. Have you determined exactly how much handling time these workers spend?
3. Do you know what percentage of your total production cost is represented by material handling cost?
4. Can anyone tell you how [illegible] of material with very large [illegible] in the case with Automatic Electric Trucks?
5. In storage areas, are you using every foot of floor space, cubic overhead, stacking and unstacking high?
6. Do you know how many tons of material you move per day, through and out of your plant daily?
7. Have you done anything to reduce labor and material damage, breakage and loss of time caused by hand handling, lifting and hand-truck carrying of materials through your plant?
8. Do you know how much hand handling of materials is being done in your warehouse and product shipping? Do you know what it costs you in labor, time and production inefficiency?

FREE BOOKLET! *How to Make Your Material Handling Pay Dividends.* Lively authentic case histories and pictures of money saved on daily operations of Automatic Electric Trucks. Write today.

Trade Automatic Mark
109 West 37th St., Dept. F-5
Chicago 20, Illinois

Automatic
ELECTRIC TRUCKS

▼ BRIEFITT—Identify by IEN-8343 if you write the maker ▼

# B.F.Goodrich

## TIREWAY & WHEEL ANALYSIS PLAN

## cuts tire & wheel costs by as much as 50%

Studies prove savings can be made in 3 out of 5 cases. The TW Analysis can no obligation to you whatsoever) determine correct tire type, size, correct tread design, correct tread rubber compound — apply all factors to your specific job.

The BFG Analysis expert will make his recommendation — including suggestions on proper maintenance. He is completely impartial — has no "axe to grind" for any type of tire — B.F.Goodrich makes and sells ALL types in ALL sizes.

No problem is too small, or too large, for the TW Analysis man. Fill out the coupon below and ask him in — even though your problem is for the years — he'll make a complete study for you.

HEAT is factor in only plastic BFG "Oil Proof" compound is highly heat resistant. B.F.Goodrich makes 14 types of tires with 6 different tread compounds. Tires include pneumatics of types of solids and semi-pneumatics.

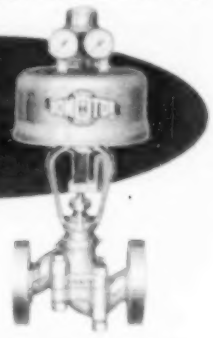
Special tires for special needs. The popular *DeLuxe* Cushion — ideal where cushioning is a must — wears longer than other cushion types, but the inner cushion of soft rubber to wear away rapidly.

The B. F. Goodrich Co.
Department TW-6J
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

Name
Title
Company
City State

IEN-8345



# DOMOTOR CONTROL VALVE

## Stands up where other valves fail—

*For Positive Control of Hard to Handle Fluids*

Sealed piston is done actuated by adjustable controlled differential pressures develop powerful stable valve action, positive single seat. Built-in null type positioner and simple, versatile valve body available in wide range of alloys for almost any fluid. Ideal for controlling flow of slurries, sludges, acids, caustics, etc. Positive bubble-tight shutoff with Teflon or other synthetic seal. Write for free bulletin today.

**Look at these specifications**

- Pressures to 3000 psi
- Temperatures to 1000° F
- Sizes ¼" to 4"
- Choice of alloys: Stainless Steel, Durimet 20, Hastelloy, Nickel, Carbon Steel, Bronze, etc.
- Quick change valve seat
- 50% weight reduction

*Investigate* ANNIN DOMOTOR VALVES *Valves*

**THE ANNIN COMPANY**

1300 UNION PACIFIC AVENUE • LOS ANGELES 23, CALIFORNIA

IEN-8346

# Side Stepping Shutdown Losses

WINSMITH WHS SPEED REDUCERS

When a specially engineered reducer of any make breaks down, you could be faced with high cost replacement and disrupting production delays.

But this needn't happen . . . not if you check with a Winsmith engineer who is frequently able to recommend a prompt replacement at substantial savings with a fully standardized reducer. Thus, not only is the immediate problem solved, but it will never repeat because, in long service life when reducer parts are apt to be required, they will always be available . . . on short notice . . . out of stock.

For your reducer problem up to 85 H.P., a Winsmith engineer can prescribe from the widest range of standard reducers and stocked parts in the industry. Write.

FREE CATALOG Handbook No. 148 with complete engineering data. Write.

**WINFIELD H. SMITH CORP.**

10 DAVIS STREET SPRINGVILLE (Erie County), N. Y.

IEN-8347

*Acme Offers Complete Facilities for*

# PRECISION GRINDING

*FAST SERVICE . . . LOW COST*

- INTERNAL
- EXTERNAL
- CRUSH FORM
- CENTERLESS
- TWIN DISC
- SURFACE
- THREAD

Acme is equipped to handle all types of precision grinding. Expert craftsmen, using modern methods and modern equipment, will do the job for you fastest, best and most economically. Acme also offers a fine lapping service that can finish surfaces to within millionths. Write for details.

**Acme Industrial Company**

*Makers of Standardized Jig & Fixture Bushings*

1130 N. Cattle Street • Chicago 1, Illinois

THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 25 YEARS

# NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers producing products they offer for your use. Identification, use of the material, information it contains so you can judge its value to you.

ALUMINUM — Engineered shapes, forging, machine components, tools and accessories, alloys. Forgings, 20,000 psi, special specifications, etc. of Aluminum Alloys. Design & Engineering Data. IEN-8000

BEARING — Sealed-for-life, maintenance free, lubricant of proprietary composition. Engineering Bulletin. Sizes, 1/2" to 2" bore. Bearings, metal bearing, etc. Name, Kaul, 2, 3, 4. IEN-8001

BOILERS — Commercial, industrial, marine, power, domestic, oil, gas, coal, electric, etc. Boilers, 2 to 1000 H.P. Boilers, 5 to 1000 H.P. Boilers, 5 to 1000 H.P. IEN-8002

BOILERS — Oil, gas, electric, coal, etc. Boilers, 2 to 1000 H.P. Boilers, 5 to 1000 H.P. Boilers, 5 to 1000 H.P. IEN-8003

BURNERS — Gas, oil, etc. Burners, 2 to 1000 H.P. Burners, 5 to 1000 H.P. Burners, 5 to 1000 H.P. IEN-8004

BURNING — Oxygen, fuel gas, and other gases, equipment, apparatus, accessories, etc. Burning, 2 to 1000 H.P. Burning, 5 to 1000 H.P. Burning, 5 to 1000 H.P. IEN-8005

CABLE — Copper, copper alloy, steel, etc. Cable, 2 to 1000 H.P. Cable, 5 to 1000 H.P. Cable, 5 to 1000 H.P. IEN-8006

CALCULATING — Computers, calculators, etc. Calculating, 2 to 1000 H.P. Calculating, 5 to 1000 H.P. Calculating, 5 to 1000 H.P. IEN-8007

CALCULATING — Computers, calculators, etc. Calculating, 2 to 1000 H.P. Calculating, 5 to 1000 H.P. Calculating, 5 to 1000 H.P. IEN-8008

CASTERS — Steel, cast iron, etc. Casters, 2 to 1000 H.P. Casters, 5 to 1000 H.P. Casters, 5 to 1000 H.P. IEN-8009

CHEMICALS — Acids, alkalies, etc. Chemicals, 2 to 1000 H.P. Chemicals, 5 to 1000 H.P. Chemicals, 5 to 1000 H.P. IEN-8010

CLEANING — Washing, sanitizing, and disinfecting equipment, apparatus, etc. Cleaning, 2 to 1000 H.P. Cleaning, 5 to 1000 H.P. Cleaning, 5 to 1000 H.P. IEN-8011

CLEANING — Washing, sanitizing, and disinfecting equipment, apparatus, etc. Cleaning, 2 to 1000 H.P. Cleaning, 5 to 1000 H.P. Cleaning, 5 to 1000 H.P. IEN-8012

CLEANING — Washing, sanitizing, and disinfecting equipment, apparatus, etc. Cleaning, 2 to 1000 H.P. Cleaning, 5 to 1000 H.P. Cleaning, 5 to 1000 H.P. IEN-8013

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Directories . . . Ratings . . . See Page 30

IEN-8348

# PIPE MARKERS anyone can use—everyone can read

**QUIK-LABEL** Pipe Markers conform to American Standards Association Pipe Identification System. QUIK-LABELS come on handy cards . . . stick without moistening. Names of materials printed in large block letters on correct ASA background colors. CAN BE READ UP TO 75 FEET. Markers for over 140 materials, *including all materials listed in ASA Standard A13*, available on Brady Stock Cards. Specials made to your order. QUIK-LABEL Pipe Markers are Silicone Plastic coated to resist dirt, grease, fumes, moisture . . . indoors or out. Replace faded and rusty painting and hand stenciling. Exclusive Shorter Strip automatically removes part of label for fast peeling. QUIK-LABELS mark your pipes so that anyone who can read will know what's in them. *QUIK-LABELS leave no room for doubt . . . or tragedy.* Write for useful literature and FREE SAMPLES today.

**FREE SAMPLES**

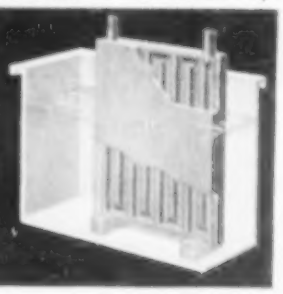
**W. H. BRADY COMPANY** | Established 1914

*Manufacturers of Self-Sticking Tape Products*

CHIPPEWA FALLS 5, WISCONSIN • *Distributors in 125 Cities*

IEN-8349

# Udylite Impervite GRAPHITE PLATE HEATERS



This plate type heat exchanger is specially designed for pickling and plating tanks and can be used for either heating or cooling. Strong and durable, the Impervite Plate Heater is built to withstand considerable shock . . . both mechanical and thermal. Impervite Plate Heaters are offered by Udylite in a wide range of sizes which can be used in various combinations to handle any size tank. Write us today for detailed information about the Impervite Plate Heater.

PIONEER OF A BETTER WAY IN PLATING

**THE Udylite CORPORATION**

DETROIT 11, MICHIGAN

IEN-8350

# KIPP Air Grinders

MODEL JA
50,000 R.P.M.
Weight 13 ounces, length 8¼ inches, chuck size ¼ inch. Wheel guard removed for better illustration.

**$42** IN U.S.A.

## THEY GRIND--NOT JUST RUB!

The RPM's size up while grinding . . . not only when the grinder runs idle.

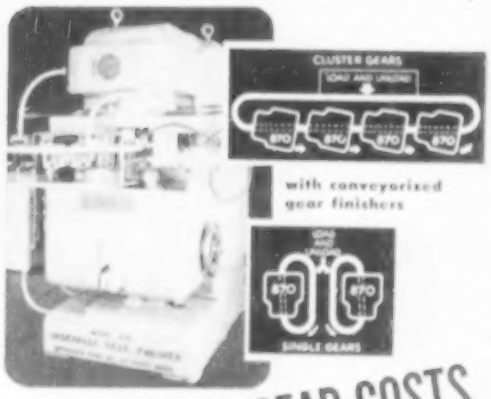
It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.

224 Waubesa St., Madison, Wis., U. S. A.

**Write for KIPP Air Tool Catalog AT 3006**

IEN-8351




with conveyorized gear finishers

# *Michigan* CUTS GEAR COSTS *Again!*

On Michigan's improved 870 gear finishers, loading time is reduced to 2½ secs. by passing a conveyor right THROUGH THE MACHINE. The conveyor carries each gear into position, stops just long enough for precision finishing, carries the gear on to the next operation. Chips are brushed by passing the same conveyor through a battery of 870 machines.

**MICHIGAN TOOL CO.**

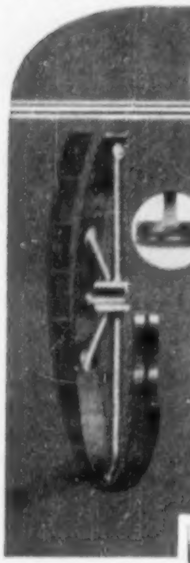
7171 E. McNICHOLS RD., DETROIT 12, U. S. A.

BREVITY—Identify by IEN-8352 if you write the maker

New Revolutionary

# Carter JIFFY-TIRES

*Answer All Your Bandsaw Tire Problems*



That's right! Jiffy Tires are made in sizes to fit any bandsaw wheel. Put on in less than 5 minutes. No cement, glue, rims, bolts or special tools. Already accepted by foremost bandsaw manufacturers as standard equipment. Jiffy Tires are molded from tread-rubber with a steel back-bone.

*Write Today!*

For your free illustrated folders on Carter's outstanding Jiffy Tires, Micro-Precision Guides, Rigid Wheels and Tires and Guide Line Lights.

Rub soap suds around inside of tire. Just tap wheel into the tire with soft mallet.

**CARTER PRODUCTS COMPANY**

144 MICHIGAN TRUST BLDG., GRAND RAPIDS, MICHIGAN

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# NOW... a Busway for Lighting and Small Power Tools

**New FLEX-A-POWER is every inch an outlet for plugs or trolleys**

Trumbull's LTG FLEX-A-POWER makes the ideal power distribution system for lighting, small tools, business machines, appliances and other 50 amp services because –

NO SHUTDOWNS FOR RELOCATING OR REWIRING LOADS – LTG can be instantly tapped by plug or trolley at *any place* on a run of 10 or 1000 feet.

COSTS LESS TO INSTALL – Prefabricated 10 foot sections can be installed faster than wiring or conduit. System is economical to relocate.

MOST EFFICIENT PLUG-IN SYSTEM – No drop-out sections to weaken system . . . 2, 3, or 4-pole systems in one compact housing . . . each 10-foot length, when properly supported, can carry 250 lbs. at any point.

Write for free copy of Bulletin TEC-3 today.

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THE TRUMBULL ELECTRIC MANUFACTURING COMPANY
Plainville, Connecticut

TRUMBULL'S TRAINLOAD OF NEW PRODUCTS

## NEW LITERATURE—Continued

*"Subjects cover the scope of industry"*

COMPRESSORS . . . [illegible] Bulletin, 4 pages. [illegible] Compressor Corp., [illegible], Chicago [illegible], Ill. IEN-[illegible]

CONDUIT FITTINGS . . . [illegible] Bulletin [illegible], 4 pages. [illegible] Electric Mfg. Co., [illegible], Newark [illegible], N. J. IEN-[illegible]

CONTAINERS . . . [illegible] Bulletin [illegible], 4 pages. Harrisburg Steel Corp., [illegible], Harrisburg [illegible], Pa. IEN-[illegible]

CONTROLS . . . [illegible] 4 pages. [illegible] Corp., [illegible], Brooklyn [illegible], N. Y. IEN-[illegible]

CONTROLS . . . [illegible] Bulletin [illegible], [illegible] pages. [illegible] Motor Co., [illegible], Cleveland [illegible], Ohio. IEN-[illegible]

CONTROLS . . . [illegible] Bulletin [illegible], 8 pages. [illegible] Co., [illegible], Boston [illegible], Mass. IEN-[illegible]

CONTROLS . . . [illegible] Bulletin [illegible], 8 pages. [illegible], Chicago 47, Ill. IEN-[illegible]

CONTROLS . . . [illegible] 4 pages. [illegible] Corp., [illegible], New York [illegible], N. Y. IEN-[illegible]

CONTROLS . . . [illegible] Leaflet [illegible], 2 pages. [illegible] Co., [illegible] W. [illegible], Chicago 7, Ill. IEN-[illegible]

CONTROLS . . . [illegible] Bulletin [illegible], 12 pages. C. H. Wheeler Mfg. Co., [illegible], Philadelphia [illegible], Pa. IEN-[illegible]

CONVERTERS . . . [illegible] Catalog [illegible], 32 pages. [illegible], South Plainfield, N. J. IEN-[illegible]

CONVEYING . . . [illegible] Bulletin [illegible]. [illegible], Buffalo [illegible], N. Y. IEN-[illegible]

CONVEYING . . . [illegible] Bulletin [illegible], 4 pages. [illegible] Mfg. Co., [illegible], [illegible], Pa. IEN-[illegible]

CORROSION PROOFING . . . [illegible] Bulletin [illegible], [illegible] pages. [illegible] Products, [illegible], [illegible], Pa. IEN-[illegible]

CRUSHING . . . [illegible] Bulletin [illegible], [illegible] pages. [illegible] Corp., [illegible], [illegible], Pa. IEN-[illegible]

CYLINDERS . . . [illegible] Catalog [illegible], [illegible] pages. [illegible] Machine Co., [illegible], [illegible], Ind. IEN-[illegible]

DRAFTING . . . [illegible] Catalog [illegible], [illegible] pages. [illegible], P. O. Box [illegible], [illegible], Calif. IEN-[illegible]

DRILLING . . . [illegible] 12 pages. National Twist Drill & Tool Co., [illegible], Rochester, Mich. IEN-[illegible]

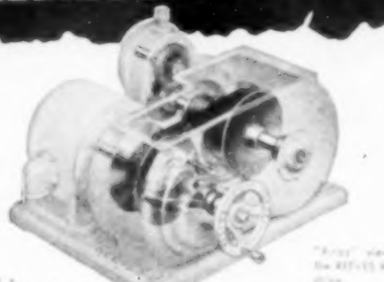
DRILLING . . . [illegible] Bulletin [illegible], 4 pages. [illegible] Machine Products Inc., [illegible], Bridgeport, Mich. IEN-[illegible]

DRILLING . . . Multiple spindle heads [illegible] Bulletin, 20 pages. Thrift-Master Products Corp., [illegible] N. Plum St., Lancaster, Pa. IEN-[illegible]

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . .* *See Page 58*

BREVITY—Identify by IEN-8356 if you write the maker

# REEVES MOTODRIVE



"X-ray" view of the REEVES Motodrive.

Combines **MOTOR, VARIABLE SPEED MECHANISM AND GEAR REDUCER IN ONE COMPACT UNIT**

You'll see vast improvement in the performance of your driven machines when REEVES Motodrive is on the job. In one space-saving assembly, REEVES gives you instant, accurate, infinite speed adjustability . . . the right speed for every operation and every operator, under ever-changing conditions—*without stops or steps.* Machines do more work . . . more different jobs . . . turn out products of improved, uniform quality in greater quantity. So to get the most from your machines, investigate REEVES Motodrive—built by the recognized leader in the specialized field of speed control engineering. And for complete information on all REEVES Speed Control units, send for Catalog IN-[illegible].

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

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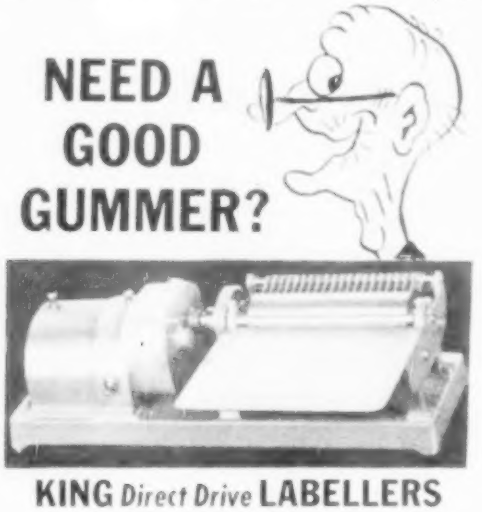
# NEED A GOOD GUMMER?



**KING *Direct Drive* LABELLERS**

Write for free catalogue

**King SALES AND ENGINEERING COMPANY**

204 FIRST STREET • SAN FRANCISCO 5, CALIFORNIA

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GET THE EXTRA ADVANTAGES OF *Stepless Heat Control* FROM 350°F. TO 1850°F.

**WITH THESE LOW COST TEMCO ELECTRIC FURNACES**

| Prices Model RCE Complete | | Prices Model GTP Complete | |
|---|---|---|---|
| For 115V. AC | $80.00 | For 115V. AC | $82.50 |
| For 230V. AC | $85.00 | For 230V. AC | $87.50 |

Write for data and dealer's name

**THERMO ELECTRIC MANUFACTURING CO.**

482 West Locust St., Dubuque, Iowa

BREVITY—Identify by IEN-8355 if you write the maker

SHENANGO-PENN *Centrifugal* CASTINGS ... KEY TO SAVINGS

*High Score*

**IN HIGH PRESSURE SERVICE**

SEND FOR FREE BULLETINS

SHENANGO-PENN MOLD CO.

787 West Third St., Dover, Ohio

**SHENANGO (P) PENN**

BREVITY—Identify by IEN-8358 if you write the maker

# "HOLD EVERYTHING"

**with this strong, open-side, all-purpose handy vise.**

Takes work from 3 sides

Range from $2\frac{3}{8}$" to $8\frac{5}{8}$"

Positive non-slip grip

Ideal for valves, manifold fittings and all other hard-to-hold items.

● Heavy, one-piece malleable cast-iron body is virtually indestructible. Takes work from 3 sides. Four easily replaceable dies in lower jaw provide positive grip to hold work safely in balanced non-slipping position. Easily installed non-scarring soft jaws also available. Vise screw made of toughest steel has coarse Acme thread for rapid adjustment. Counterbalanced handle, mounted at efficient arm height, can be quickly extended for extra leverage. Wide range replaces three ordinary vises. Far safer and faster than chain tongs. For folder and prices address . . .

**BAKER OIL TOOLS, INC.**

BOX 2274 TERMINAL ANNEX, LOS ANGELES 54, CALIFORNIA

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You asked for it...
HERE IT IS—

**AO's New Metal Ful-Vue Safety GOGGLE!**

**HANDSOMER** IN APPEARANCE • **STRONGER** IN STRUCTURE

With the F4D0 Metal Ful-Vue, AO's protection against the impact of flying particles reaches its highest development. Here in one goggle, with or without side shields, workers can obtain the peace of mind which comes from assured safety ... the utmost in comfort over nose and temples ... the very finest in EYE-APPEAL PLUS EYE PROTECTION!

American Optical
SAFETY PRODUCTS DIVISION

*Southbridge, Massachusetts • Branches in Principal Cities*


## NEW LITERATURE—Continued

*"Alphabetically to facilitate finding"*

**DRILLING** ... [illegible]

**DRIVES** ... [illegible]

**DRIVES** ... [illegible]

**EQUIPMENT** ... [illegible]

**FABRICATING** ... [illegible]

**FABRICATING** ... [illegible]

**FASTENINGS** ... [illegible]

**FASTENINGS** ... [illegible]

**FILTERING** ... [illegible]

**FOUNDRY EQUIPMENT** ... [illegible]

**GENERATORS** ... [illegible]

**GENERATORS** ... [illegible]

**GRINDING** ... [illegible]

**GRINDING** ... [illegible]

**GRINDING** ... [illegible]

**HANDLING** ... [illegible]

**HANDLING** ... [illegible]

**HEAT TREATING** ... [illegible]

**HEATING** ... [illegible]

**HOSE FITTINGS** ... [illegible]

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 56*


▼ BREVITY—Identify by IEN-8363 if you write the maker ▼

*Be fresh... Stay fresh*

wear a

**DUPOR No. 4**

THE RESPIRATOR FOR DUST, FUMES, PAINT SPRAY

Double filters provide easy breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Has patented DUPOR valves for "controlled breathing," and panorama view without blind spots. A prime favorite for years!

*Sample sent $1.65 pp*

**H. S. COVER, South Bend, Ind.**

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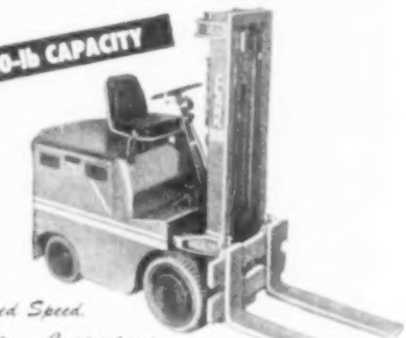
# CLARK ELECTRIC CARLOADER

3000-lb CAPACITY



*Increased Speed, Capacity ... Compactness and Maneuverability*

- AUTOMATIC ACCELERATION
- STEERING COLUMN DIRECTIONAL CONTROLS
- "DEAD MAN" SAFETY CONTROLS
- "NO KICK-BACK" STEERING
- PIVOTED STEERING AXLE ASSEMBLY MOUNTING
- HYDRAULIC BRAKES
- ROLLED STEEL UPRIGHTS
- POWER ECONOMY
- 24-INCH LOAD CENTER RATING
- "HI-LO STACK" UPRIGHTS OPTIONAL

CLARK IS YOUR BEST BUY

For complete information concerning this important advancement in the science of modern low cost materials handling, fill in and mail this coupon.

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 47, MICH.
Please send: ☐ Elec Carloader Literature ☐ Movie Digest ☐ Material Handling News
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Firm Name
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AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

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A NEWS ADVERTISEMENT BY REMINGTON RAND INC.

THE NEW REMINGTON
# Electri-conomy
TYPEWRITER

Booklet describes how the new Remington Electri-conomy Typewriter slashes typing costs ... increases typing production ... meets every typing need.

Source: Remington Rand Inc., Business Machines and Supplies Division, Room 1640, 315 Fourth Ave., New York 10, N. Y.

Here is concrete information on how you can cut office typing costs and increase typing output anywhere from 10 to 50% by using the new Remington Electri-conomy Typewriter ... the typewriter that turns out more work, better work, in less time and with less effort.

Based on testimonials and reports obtained from some of the country's largest, most important companies, "The New Remington Electri-conomy Typewriter" contains illustrations and information of interest to executives in every business, large or small ... and it's condensed into 6 pages for quick and easy reading. A copy of this booklet may be obtained by writing the publisher, Remington Rand, Room 1640, 315 Fourth Ave., New York 10, N. Y., or by using the Reader Service Form herein.

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*Introducing*

**FEDERAL "44"**

NEW 35-TON PRESS designed with important extra features ... to handle a wider range of jobs!

- EXTRA SHUT HEIGHT
- EXTRA THROAT DEPTH
- EXTRA LONG STROKE

• Write for new catalog showing entire line — sizes 8 to 80 tons

FEDERAL PRESS CO., 503 Division St., Elkhart, Ind.

**FEDERAL PRESSES**
35 YEARS OF QUALITY CONSTRUCTION

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## TO KEEP OUTPUT UP!

USE
**DIAMOND ROLLER CHAIN**

With Diamond Drives the transfer of power from motors, from shafts, from reducers is accomplished without slip. Top production speed of the driven machines is maintained.

For small or large horsepowers, for shafts close together or far apart, for low or high speeds, DIAMOND Roller Chain Drives do the job more efficiently. Their hardened rollers are cushioned on films of oil, insuring greater smoothness and long life. DIAMOND CHAIN COMPANY, Inc., Dept. 465, 402 Kentucky Avenue, Indianapolis 7, Indiana.

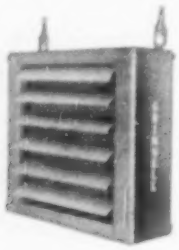
Offices and Distributors in all principal cities. Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER

*Write today for Chain and Stock Sprocket Catalog 709*

▼ REPRINTS—Identify by IEN-8366 if you write the maker ▼

## More heat for less money

Make next winter a season of heat-saving instead of heat-wasting. Savings with Thermoliers differ, of course, with differences in buildings, but a railroad shop saved 35%, one manufacturer, 29%, and a company operating 50 plants averaged 30%. Your savings with Thermoliers may be even larger. Get in touch with Grinnell or your local Thermolier distributor.



**Four Types for any operating condition**

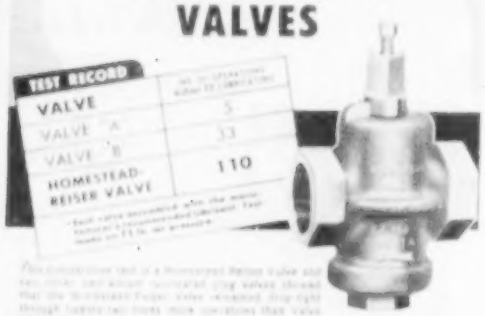


**GRINNELL**

Grinnell Company, Inc., Providence 1, R. I. Branches: Atlanta • Billings • Buffalo • Charlotte • Chicago • Cincinnati • Dallas • Kansas City • Houston • Long Beach • Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Portland • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

▼ REPRINTS—Identify by IEN-8367 if you write the maker ▼

*Up to 22 times more operations*
WITHOUT RE-LUBRICATING
**HOMESTEAD-REISER**
*Self-Sealed* LUBRICATED PLUG
**VALVES**




This connection test of a Homestead Reiser valve and two other well known lubricated plug valves showed that the Homestead Reiser valve withstood drop-tight through twenty-two times more operations than valve "A" without re-lubricating and through three times as many operations as valve "B". That means that Homestead Reisers require less attention and give greater assurance of tightness.

Prove the superiority of Homestead Reiser Valves to your own satisfaction by ordering a few to test against any other lubricated plug valve. They may be had in cast iron valves and cast steel valves in 1/2" to 2" sizes serving pressures to 150 pounds or cold water gas to 200 pounds.

Write for new circular 35-S and for prices on gas or pressures.

**HOMESTEAD VALVE MANUFACTURING CO.**
"Serving Since 1893"

P. O. BOX 55 CORAOPOLIS, PA.



▼ REPRINTS—Identify by IEN-8368 if you write the maker ▼

For greater profits, use Sterling Six-Speed Electric Power Drives

STERLING
ELECTRIC MOTORS


## NEW LITERATURE—Continued

*"These reviews total 135 this month"*

**HOSE FITTINGS** . . . Brass and steel hose and fittings, hose accessories, 16 pages. Catalog B-140. Dixon Valve & Coupler Co., 400 E. Hunting Park Ave., Philadelphia 24, Pa. IEN-8365

**INSULATING** . . . Electrical insulating materials, 100 pp. Bound Brook Oil-less Bearing Co., Bound Brook, N. J. IEN-8367

**LABELING** . . . Machines for labeling or marking of cartons, cases, boxes of closed specifications, bulletin, 4 pages. Progressive Machine Co., 123 W. 52nd St., Jersey City 11, N. J. IEN-8368

**LATHE TOOLS** . . . Equipment and tool for turning, chamfering, cutting, and grooving. Catalog 1-1, 8 pages. Jones Tool Co., 2002 Beaver Ave., Toledo 1, Ohio. IEN-8369

**LIGHTING** . . . Incandescent, arc, mercury, fluorescent and sodium lighting, detail data. Catalog 8, unpaged brochure, 36 pages. Pittsburgh Reflector Co., 106 of Power Ave., Cleveland 14, Ohio. IEN-8370

**LOADING** . . . Bulletin 1101, 10 pp. Catalog 500, 8 pages. N. P. Adams Iron Works, 501-27 Broadway, Clifton, N. J. IEN-8371

**METAL SPRAYING** . . . Automatic or semi-automatic metallizing equipment, 8 pages. Metallizing Engineering Co., 40-30 36th St., Long Island City 1, N. Y. IEN-8372

**METAL TREATING** . . . Purchasing catalogue for steel, copper, brass, wire, chemicals, representatives. "Metal Pioneers," 8 pages. Bullard Co., 100-41 Pine St., New Haven 5, Conn. IEN-8373

**METERS** . . . Tips on pressure gauges in three differential, temperature, permeability, mercury, diagram. Bulletin 3200, 4 pages. Hagan Corp., 323-35 Fourth Ave., Pittsburgh 30, Pa. IEN-8374

**MILLING** . . . End mills and reamers, 176 pp. Form 4500, 100 pages. "Milling Machines." Kearney & Trecker Corp., 6700 W. Burleigh St., Milwaukee 1, Wis. IEN-8375

**MILLING** . . . Advanced Chapter for semi-fixed machines, description, illustrations, specs, 20 pp. Bulletin V-30, 10 pages. Bullard Co., 1000 E. Bullard St., Bridgeport 2, Conn. IEN-8376

**MIXING** . . . Machine for dry, free-flowing materials, 4 pp. Form 1-1-1-

IEN-8373

It is the Shortest

MOTORIZED BATTERY OPERATED Walkie PALLET TRUCK built!

The MOTO-TRUC

Besides shorter overall length, Moto-Trucs have the added advantage of simplest and easiest controls—ALL in easy grip roller type handle.
12-volt power for ordinary operation and 18-volt for heavy duty or ramp operation. Less operating parts and easier accessibility—a time saver in maintenance, inspecting and servicing.
Dead man controls and exclusive braking system insure safety for both operator and loads.

*Write for Bulletin No. 50, and specifications.*

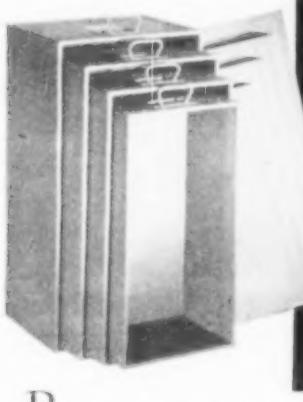
PALLET TRUCKS
HI-LIFT TRUCKS
PLATFORM TRUCKS

The MOTO-TRUC Co.
1052 E. 59th Street
CLEVELAND 3, OHIO.
ORIGINATORS OF MOTORIZED HAND TRUCKS

IEN-8374

GPX

CUTS COSTS AGAIN! . . . BUILD BETTER STORAGE AND SHIPPING BOXES WITH GPX



Because the armor-hard plastic surface of GPX is part of the plywood itself—not merely an added surface layer—it is the preferred material for tote boxes, tool lockers, storage bins and shelves. Good for a lifetime of hard wear, GPX resists the destroying effects of contact with the sharp edges and corners of industrial equipment.

Ideal for countless industrial uses, built in and around any kind of plant, it will pay you to investigate GPX today.

GPX is Weatherproof
GPX is Abrasion Resistant
GPX is Vermin Resistant
GPX is Extra Strong
GPX is Durable
GPX is Water Resistant
GPX is Stain Resistant
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## NEW LITERATURE—*Continued*

*"Check these to keep your file current"*

ELASTICS — [illegible] IEN-8366

ELASTICS — [illegible] IEN-8367

ELASTICS — [illegible] IEN-8368

ELASTICS — [illegible] IEN-8369

PRESS ATTACHMENTS — [illegible] IEN-8370

PRESS TOOLS — [illegible] IEN-8371

PRINTING — [illegible] IEN-8372

PRINTING — [illegible] IEN-8373

PRINTING — [illegible] IEN-8374

PROCESSING — [illegible] IEN-8375

PROCESSING — [illegible] IEN-8376

PROCESSING — [illegible] IEN-8377

PROCESSING — [illegible] IEN-8378

PROTECTING — [illegible] IEN-8379

TUBES — [illegible] IEN-8380

TUBES — [illegible] IEN-8381

TUBES — [illegible] IEN-8382

READING — [illegible] IEN-8383

*All Makes of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 38*

IEN-8376

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Brady QUIK-MASKS are the answer to your masking problem! Pre-cut to exact size and shape, they stick to any surface without measuring. Protect your name plates, machined parts, threads, holes, etc. and completely eliminate costly hand-cutting, use of stopoff materials, and expensive metal shields. QUIK-MASKS are made from "Scotch" Brand Masking Tapes — they can be applied fast, then when finished, they can be removed in a flash! Low-cost Brady QUIK-MASKS will bring you immediate savings! Tri circles, squares, rectangles from many sizes in stock or have your needs met with tailor-made QUIK-MASKS.

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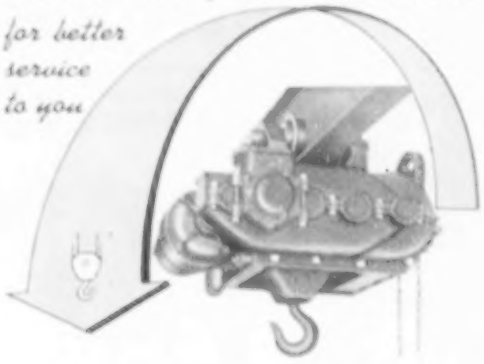

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Quick, dependable movement of material is a "must" for cost control. NORTHERN HEAVY DUTY HOISTS represent over fifty years' knowledge in building overhead handling equipment which makes every move count in better service to you and your customers.

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IEN-8378

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Produces Without Special Tooling — Saves Die Costs Saves on Expensive Presses

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THIS BIG BROTHER BENDER IS BUILT WITH DIES 3" OR 4" HIGH.

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★ ★ ★ ★ ★ engineered shipping containers

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Shapes and shells of all degrees of depth have been made by Pressed Steel Tank Company, specialists in deep drawing for more than 45 years. Depths have ranged from a few inches up to six inches.

But no matter what the depth, all Hackney Shells give users many exclusive advantages: decreased overall weight, greater strength, faster production, elimination of expensive machining operations, greater durability, improved appearance, lower costs.

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208 South LaSalle Street, Room 704, Chicago 4
677 Roosevelt Bldg., Los Angeles 14

Hackney

## NEW LITERATURE—Continued

*"Are all these in your catalog file?"*

**RECTIFYING** . . . Variable-dc power supply, 0 to 30 volts, 35 amp. maximum; circuit diagram, operation. Catalog, 4 pages. Superior Electric Co., 96 Hudson Ave., Bristol, Conn. IEN-8311M

**REFRACTORIES** . . . Electrically chrome bonding cement for furnace refractories; properties, uses. Bulletin D-757-A, 4 pages. R. J. Lucas & Co., 1500 W. Walnut St., Philadelphia 6, Pa. IEN-8317

**RELAYS** . . . Hermetically sealed units, instrument types, models, operating data, specifications. Catalog 5-H, 32 pages. Guardian Electric Mfg. Co., 1628 W. Walnut, Chicago 12, Ill. IEN-8318

**SCAFFOLDS** . . . Adjustable tubular steel brackets for wall attachment. Illustrations showing in use; parts. Folder A-6, 4 pages. Beaver Air Hoist Corp., 1322 Fairview Ave., Elwood City, Pa. IEN-8319

**SCAFFOLDS** . . . Multiple movement ladder scaffolds; specifications, details of components. Bulletin PSS-56, 4 pages. Patent Scaffolding Co., 38-16 10th St., Long Island City 1, N. Y. IEN-8320

**SEPARATING** . . . Strainers and separators for steam, air, water, oil lines; catalog descriptions. Bulletin 10-40A, 16 pages. American Injector Sales, 20 Bryant St., Port Chester, N. Y. IEN-8321

**SEPARATING** . . . Horizontal-basket centrifuge to determine crystal materials; cycle sequence. Bulletin 1252, 8 pages. Sharples Corp., 2951 Westmoreland St., Philadelphia 40, Pa. IEN-8322

**SHEARING** . . . Machine to cut roll material into sheets; models, capacity, control details. "Roll Sheet Cutter," 20 pages. Cline Duck Machine Corp., 472-14 N. 29th, Philadelphia 8, Pa. IEN-8323

**SIGNALING** . . . Illuminated window annunciator to signal remote conditions; diagram, suggested uses. Folder, "Type ANG," 4 pages. Autocall Co., 140 W. Tucker Ave., Shelby, Ohio. IEN-8324

**SIGNALING** . . . Photoelectric combustion indicator and control instruments; models, applications. Bulletin 301-S, 4 pages. Fan Instruments Co., 20-20 E. Washington, Bergenfield, N. J. IEN-8325

**STAPLING** . . . Machines to staple corrugated shipping containers; specifications on five models. "Bostitcher Structures," 4 pages. Bostitch Inc., 556 Mechanic St., Westerly, R. I. IEN-8326

**STEELS** . . . Copper-clad stainless steel; manufacturing steps, composition, uses. Bulletin "Rosecrite Metal," 20 pages. American Cladmetals Co., P. O. Box 561-A, Carnegie, Pa. IEN-8327

**STEELS** . . . Flat ground stock, ¼ to 10 in. wide, 1/16 to 2½ in. thick; types, for press, tool, continuous. Folder 1100, 4 pages. L. S. Starrett Co., 140 Starrett St., Athol, Mass. IEN-8328

**STOKERS** . . . Chicago Automatic spreader stokers for boilers to 1,000 hp.; operation. Bulletin 40, 8 pages. Standard Stoker Co., 370 Lexington Ave., Rm. 2305, New York 17, N. Y. IEN-8329

**STORING** . . . Welded steel oil storage tanks, 500 to 100,000 bbl. dimensions, load details. Bulletin 41, 4 pages. Chicago Bridge & Iron Co., 100 N. Michigan Ave., Chicago 4, Ill. IEN-8330

**STORING** . . . "Rotoset" with five automatic pattern details on thermoset tool-drawer models. Folder LRT-300, 6 pages. Remington Rand, 315 Fourth Ave., Rm. 1018, New York 10, N. Y. IEN-8331

**TESTING** . . . Type 100-VD impact shock machine for product testing; description, dimensions, data sheet. Bulletin 401-A, 7 sheets, thirty copy. "D-F Notary 46," Cambridge 38, Mass. IEN-8332

**TESTING** . . . Liquid dye and developer to locate surface flaws in metal parts; instructions for use. Product bulletin, 4 pages. Dy-Chek Inc., 1010 E. Broadway, Hawthorne, Calif. IEN-8333

**TESTING** . . . Motor-driven quenter for laboratory work; specifications, for prices. Folder, "Mentor Quenter," 4 pages. Fisher Scientific Co., 717-19 Forbes St., Pittsburgh 19, Pa. IEN-8334

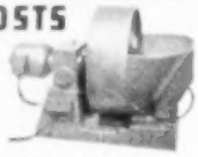
**TESTING** . . . Ultrasonic apparatus for process research, development, quality control; specifications. Bulletin 1101-"Sa," 2 pages. General Electric Co., Dept. EX-101, Schenectady 5, N. Y. IEN-8335

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30*

DREFFIT—Identify by IEN-8383 if you write the maker

Lower

PRODUCTION COSTS WITH KRAUS AUTOMATIC HOPPERS



Typical Tumble Hopper

USE THEM FOR . . .
1. Machining
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VERSATILITY. Basic hoppers can be tooled for a wide variety of pieces.

LARGE CAPACITY. Up to 2.4 cu. ft. on 32" tumble type. Eliminates frequent reloading and saves labor.

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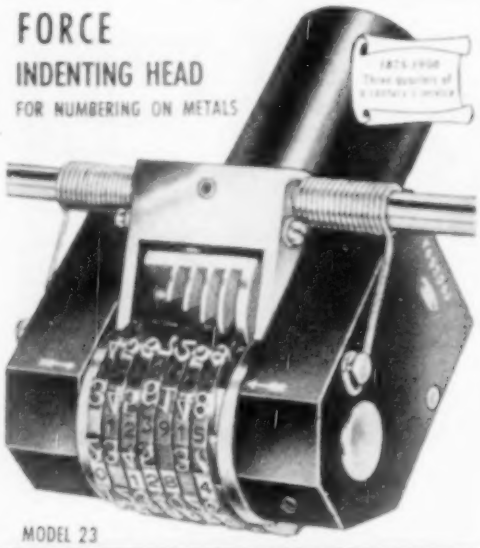

MODEL 23

Indenting numbering head for power presses. Other models in stock or specially designed. Write for catalog "N"

WM. A. FORCE & COMPANY
INCORPORATED
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DREFFIT—Identify by IEN-8385 if you write the maker

SUREWELD'S NEW PORTABLE Spot Welder

NOW WITH 50% MORE CAPACITY

Now you can spot-weld thicknesses up to 3/16" with amazing ease and uniform perfection . . . . .

This is the handy, light-weight Sureweld Spot Welder that has stepped industry by storm. . . . And now it is available in a Heavy Duty Model with 50% greater capacity that will weld cold and stainless steel up to 3/16, combined thickness, and galvanized up to two pieces of 16 gauge.

This remarkable tool combination of the welder that will be super accurate for 16 minutes and light "toggle action" over two million times, permits spot welds every time. Movable arms are adjustable with which to reach point.

Force has available some twenty models for welding all kinds of parts or stamps. A production tumble pattern welding machine with one hand action operating the lever and welds with the other hand.

Heavy Duty Model weighs 37 lbs. and required 8 KVA line hookup. Standard Model weighs up to 36" continuous thickness, weighs 27 lbs., is available for 110 or 220 volt. All versions in use are from 40 to 60 cycles, 60 cycle line hookup.

Write for Illustrated Literature

TONG PROFILES

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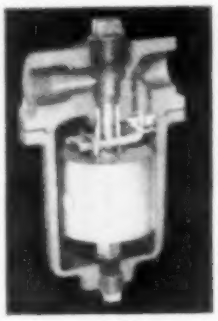
Pioneers in Electric Welding Since 1920
445 North Michigan Avenue, Chicago 11, Illinois

NCG
EVERYTHING FOR WELDING

▼ BREVITY—Identify by IEN-8387 if you write the maker ▼



# The INSIDE STORY on WHY YOU SAVE with SUPER-SILVERTOPS

● In this cutaway view of an Anderson Super-Silvertop Steam Trap, you can see that all pipe connections are in the head of the trap. The alternate top inlet connection provides for elbow connection as well as straight-in line. This means simplified piping saving up to nine fittings, plus 40 minutes of costly installation time over conventional traps! See how the guided bucket permits the use of a longer lever arm with greater valve opening power. This larger valve means more capacity for the same size trap. Super-Silvertop trapping is efficient trapping . . . the most economical you can buy. You save two ways . . . in installation costs, and operating costs. Learn how to cut your steam trapping costs. Write for the helpful book, "Solving Steam Trap Problems."

**THE V. D. ANDERSON COMPANY**
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**SUPER-SILVERTOP**

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## MICRO PRECISION SWITCHES for Production Short Cuts

Here are typical applications of MICRO precision switches which have resulted in production short cuts. Plant engineers and factory maintenance men are continually finding new ways of using MICRO precision switches to make present equipment more automatic, eliminate waste, increase accuracy and reduce accidents to personnel and equipment.

Write for "MICRO TIPS". This publication will show you many other ways in which MICRO precision switches have led to production short cuts.

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As coiled band strap is fed through feed rolls, it moves through guide track. A number of square holes are cut on the top of the track and the switch, which actuates the cut-off plunger, is placed in the desired position to maintain uniform length of the cut band strap.

### 2 MICRO Precision Switch Insures Safe Operation of 50,000 Volt Measure

To insure safe operation of 50,000-volt transil oil dielectric breakdown check, [illegible] switch is installed in series with push button on primary circuit. Switch is closed as [illegible] with plastic window is closed down over the pedestal insulators supporting the cup of oil and its internal spark gap.

MICRO SWITCH Distributors with complete stocks are located in over one hundred cities to supply you with just the right switch to make your plant operations more automatic. Look for them under "Switches, Electric" in your classified phone book.

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MICRO . . . first name in precision switches

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## NEW LITERATURE—Concluded

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TESTING . . . [illegible] IEN-8[illegible]

TIMING . . . [illegible] IEN-8[illegible]

TIMING . . . [illegible] IEN-8[illegible]

TRANSFORMERS . . . [illegible] IEN-8[illegible]

TRAPS . . . [illegible] IEN-8[illegible]

TRAPS . . . [illegible] IEN-8[illegible]

TUBES . . . [illegible] IEN-8[illegible]

TUBES . . . [illegible] IEN-8[illegible]

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VALVES . . . [illegible] IEN-8[illegible]

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*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 56*

▼ BREVITY—Identify by IEN-8390 if you write the maker ▼

A News Advertisement by Glycerine Producers' Association

## GLYCERINE IN INDUSTRY

. . . 5 new booklets describe Glycerine's wide range of industrial application. Data on chemical and physical properties also included.

Source: GLYCERINE PRODUCERS' ASSOCIATION
Dept. 32, 295 Madison Ave., New York 17, N. Y.

Here's new information about one of the most versatile products in the service of industry! Compiled by the Glycerine Producers' Association, these easy-to-read, informative booklets offer a wealth of information to the production man as well as the research technician. Whether you now use Glycerine or merely wonder about its possibilities—one of these will tell where it fits in your business!

"WHY GLYCERINE?" (A general survey of all industrial applications)
"WHY GLYCERINE FOR ALKYD RESINS AND ESTER GUMS?"
"WHY GLYCERINE FOR DRUGS AND COSMETICS?"
"WHY GLYCERINE FOR FOODS?"
"WHY GLYCERINE FOR TEXTILES?"

All five contain pertinent information on the physical and chemical properties of Glycerine . . . its origin and development . . . grades and their applications. Practical useful data covering specific industries . . . as well as comprehensive tables and graphs. Booklets range from 12 to 16 pages and are illustrated throughout. Copies may be obtained free of charge by writing the publisher, Glycerine Producers' Association, Dept. 32, 295 Madison Ave., New York 17, N. Y. or by using the enclosed Reader Service Form.

▼ BREVITY—Identify by IEN-8391 if you write the maker ▼

# NEW 14" South Bend ECONOMY MODEL DRILL PRESS

$76.00 f.o.b. factory less motor and chuck

***Features*** include automatic belt tension, [illegible] feeding depth stop, full tilting table, rigid one-piece head casting, one floating six-spline spindle, four pre-lubricated precision ball bearings, and adjustable feed tension. Rugged, built for regular machine shop service.

***Specifications:*** Drills to center of 14-1/4" circle, maximum drill size 1/2" in steel, spindle run out .003" or less, spindle square to table within .0015" in 6". Net weight of bench model shown, less motor and drill chuck, is 124 pounds.

*Write for Bulletin 402*

**SOUTH BEND LATHE,** South Bend 22, Indiana
Building Better Tools Since 1906

▼ BREVITY—Identify by IEN-8392 if you write the maker ▼

# *Six Thousandths of an inch from Destruction!*

Just the thickness of their protective coatings!

That's how close tanks may come to destruction from accidental acid spillage. But with coatings based on VINYLITE Brand Resins, fears are set at rest!

The tanks shown here are ample proof. Part of an oil refinery's acid plant, they are well into their second year of enduring protection by such coatings—despite overflow of sulphuric acid and sodium hydroxide—despite exposure to sulphur dioxide—despite exposure to salt air and corrosive fumes.

Expensive corrosion becomes virtually a thing of the past if coatings for your industrial applications are based on VINYLITE Resins. Savings multiply because of relief from costly shut-downs, maintenance, and replacements.

Coatings based on VINYLITE Resins are easily applied by conventional equipment. Applied on flat sheet metal, they stand up under forming, drawing, or stamping without cracking, wrinkling, or peeling. They strongly resist acids, alkalies, chemicals, sea water, salt air, abrasion, and sunlight. They remain intact after long service, retaining their integrity and bond.

They are equally effective on metal and concrete. Odorless, tasteless, and non-toxic, they protect equipment from contamination by contents, and contents from contamination by equipment.

For information on suppliers of chemical-resistant coatings based on VINYLITE Brand Resins, write Dept. HO-68.

Tank coatings by [illegible]

**Vinylite** BRAND **RESINS**

BAKELITE DIVISION

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*Union Carbide and Carbon Corporation*
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FREE!—Detail by IEN-8394 if you write the maker

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*your better source for all three*

STEEL that resists corrosion — INGERSOLL SOLID STAINLESS

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All are backed by Borg-Warner

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# NO NEED TO JAM A DART
## *to get a Drop-tight joint*

Drop-tight. Without jamming, too—that's the reason Darts are your best buy. There's no need to use excessive wrenching to get a tight connection. The two bronze seats have the wide, true bearing surfaces that come only from precision grinding. Thus you can tighten a Dart easily without jamming the seats. Up couple three turns, one, for more space and speed.

To give extra strength, both body and cap are made of high quality gray-iron malleable iron . . . generously substantial.

Not months Darts always can be in the long run . . . always give longer, better service.

E. M. DART MFG. CO.
PROVIDENCE 5, RHODE ISLAND

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*Have a real talk with your E-P man about your planning now.*

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THE ELWELL-PARKER ELECTRIC CO.
4064 St. Clair Avenue • Cleveland 14, Ohio

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## ELECTRONIC TUBES . . Control units for on-off service as in computers

Source: RADIO CORP. OF AMERICA
412-17 S. 5th St., Harrison, N. J.

Three new tubes, miniature design, have been added to the company's line of electronic products. They are intended for use in on-off control applications requiring long periods of operation under small stress. Under this condition they will increase fixed power points. They feature freedom from grid emission and capacitance of small size.

Type 5915 is a pentagrid amplifier of 7-pin design for grid-amplifier service. Triode No. 1 and 2 can each be used as independent current amplifiers.

Type 5963 is a multiunit twin triode of 9-pin type for frequency divider circuits. It has a mid-tapped heater for operation from a 6.3 or 12.6 volt supply. Separate terminals for each cathode permit a closed arrangement. Plate dissipation is maximum as 2.5 watts.

Type 5961 has a multiunit twin triode, in 7-pin design for frequency divider circuits. Its cathode is common to the two triode units. Maximum plate dissipation is 1.5 watts.

FREE!—Detail by IEN-8398 if you write the maker

## DRIVE . . Power takeoff for application on truck transmissions

Source: ARROW GEAR CO.
P. O. Box 1709-A, Tulsa 1, Okla.

Four designs are included in a new line of straight-spur power takeoffs which the company has been asked for applications on all-metal makes of trucks. Each gear replaces the original SAE 6 hole opening in the side of the transmission housing and is engaged and disengaged by a hand lever or pull cable. Units to apply on transmissions to mesh with a forward gear in the transmission employ an internal clutch; on the reverse gears it comes are needed.

Basic Model K, shown in the illustration, is a single-gear unit for light duty. Basic Model F is for medium duty and mounts on shaft on needle bearings with grease seals to retain lubricant and exclude dirt. Basic Model G or GL gear is for medium duty and single speed. It accepts two gears to provide the output shaft outside of transmission oil or grease. Model G has a .66 to 1 ratio. Model GL, an 1.5 to 1. Both shafts rotate on needle bearings. Basic Model M provides two speed forward and one for reverse. Its shaft rotates on needle and tapered roller bearings. This gear is sealed permanently for heavy-duty, single operation.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10*

FREE!—Detail by IEN-8399 if you write the maker

## UNIVERSAL's EZEBILT Rolling Maintenance Tower

Write for nearest distributor or new Scaffold Catalog

UNIVERSAL MFG. CORP.
107 North Street • Zelienople, Pa.

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## For the Answer to Your Insulation Problem LOOK THROUGH *This* LINE

Varglas Silicone retains properties at 500° F or −65° F. Varglas Tubing Impregnated with General Electric Permafil, tough, flexible, heat-resistant. Varglas Sleeving and Tubing, numerous types and grades. Varglas Non-Fray Sleeving, for temperatures up to 1200° F. Varflo Tubing and Sleeving, made of Fiberglas, priced like cotton. Varflex Cotton Tubing and Sleeving where Fiberglas is not required. Syntholvar Extruded Plastic Tubing, made from vinyl polymers.

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HYDRAULIC weight saving fewer moving parts—can be arranged and mounted to occupy less space in "hard-to-get-to" locations.

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# BE KIND to your back

LET THE *Styl-O-Veyor Junior* DO THE HEAVY LIFTING

$385.00 Complete

A LOW PRICED ECONOMICAL BELT BOOSTER

Versatile unit for loading and unloading freight cars, lifting from one level to another, stacking cases or cartons in your warehouse. You get higher angle of lift 32°—all aluminum general load motor units sealed for life bearings . . . one piece formed steel and welded steel supports.

Bulletin HP20-2A

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IEN-8403

EX-CELL-O CORPORATION • DETROIT 32, MICHIGAN

IEN-8404

SENSITIVE SWIVELING ACTION

Clutch wear, battery strain, and mechanical torque is substantially reduced on power towing equipment.

RESPONSIVE ROLLABILITY

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Chicago, Illinois

40-88 Lawrence Street
Flushing, L. I.
New York

OVALLED AXLES ELIMINATED

FREE

AEROL CO. INC.
A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION

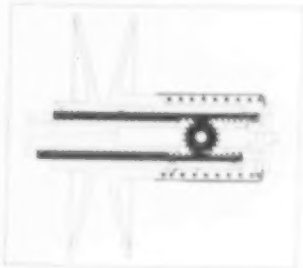
NO WHEEL ROLLS LIKE AN AEROL

Guaranteed 20% Greater Rollability

IEN-8406

DRIVE . . Adjustable pitch sheave for 1 13/16 by 7/16 in. section V-belt

Source: GERBING MFG. CORP.
648-52 W. Washington Blvd., Chicago 6, Ill.



IEN-8407

THREADING . . Diestock for pipe equipped with jam-proof drive plate

Source: RIDGE TOOL CO.
352 Clark St., Elyria, Ohio

Uses one set of high speed dies

IEN-8408

ELECTRIC DUCT . . Finishing strip applies with company's plugmold duct

Source: WIREMOLD CO.
2 Wiremold Road, Hartford 10, Conn.

IEN-8409

CUT PIPE THREADS CLEANER, BETTER, WITH LESS TIME AND LESS EFFORT

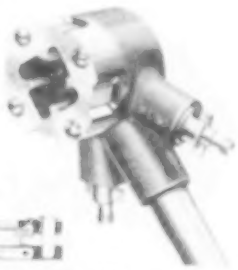
with the REED

REMOVABLE HEAD, SELF-FEEDING RATCHET THREADER

No pushing! Patented double-threaded throat leads die onto pipe.

Exclusive double-pawl ratchet cuts lost motion in half.

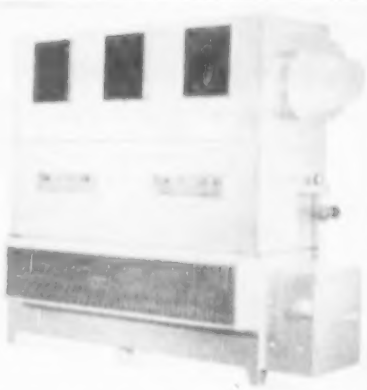
Positive-locking, quick-change heads will not fall out.



Remember — In a vise or pipe tool if it's a REED it's RIGHT

REED MANUFACTURING COMPANY
ERIE, PENNSYLVANIA

IEN-8410



EFFICIENT LIQUID COOLING THAT SAVES ON WATER!

BUFFALO FORGE COMPANY

"Buffalo" NEW MODEL "F" EVAPORATIVE COOLERS

IEN-8411

"BUILT-IN" FEATURE

SAVE OVER 50% FLOOR SPACE THE HAMMOND WAY

Hammond of KALAMAZOO

NO-DUST GRINDER

Hammond Machinery Builders

1307 DOUGLAS AVENUE • KALAMAZOO 38, MICHIGAN

IEN-8412

"DY-NAMIC BALANCING helps us maintain our HIGH STANDARDS of QUALITY"!

A SPOT-CHECK OF ROTATING PARTS AT YOUR PLANT—checking Dy-Namic Balance of everything that turns in your finished product are the machines that produce them, and ensure how valuable Dy-Namic Balancing can be to maintain your Quality Standards easily, accurately, economically by reducing distributing noises, dangerous vibration and unnecessary friction.

FREE Dy-Namic Balancing Manual brings you tables, diagrams and latest technological "Newsgrounds" to help on your investigation. Bear Mfg. Co. Dept. I-5, Rock Island, Ill.

"BEAR" STATIC AND DY-NAMIC BALANCING MACHINES

BREVITY—Identify by IEN-8413 if you write the maker

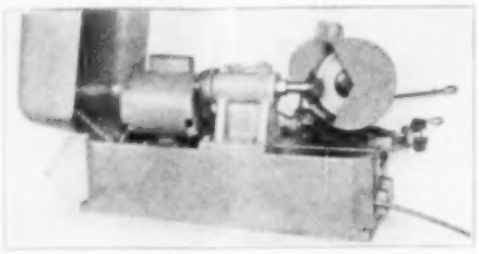
BREVITY—Identify by IEN-8414 if you write the maker

BREVITY—Identify by IEN-8415 if you write the maker

BREVITY—Identify by IEN-8416 if you write the maker

## GRINDING . . Sharpening machine for slitting machine cutter wheels

Source: CAMERON MACHINE CO.
63-65 Poplar St., Brooklyn 2, N. Y.



**Camachine** Type PG is a new bench-mounting grinder and pointing machine for precision conditioning of the cutter wheels employed in scoring slitting machines. It takes 2 or 10 in. wheels, has an adjustment by which the cutting edge can be exactly centered. The wheel mounts on a motor-driven spindle carrying a trimming stone for speeds to 3,600 rpm. The spindle motor is a ⅓ hp. single-phase 110-volt ac. unit operating at 1,800 rpm. A diamond point dressing is mounted on the spindle support bracket to apply on the grinding wheel as required.

**The wheel head** is mounted on grooved slide to set the 6 to 1½ in. wheel at the correct angle and to move it over the work by operating a hand lever. The wheel motor is a ⅓ hp. unit, also for operation on single-phase 110-volt 60-cycle ac. Point adjustment provides for an included cutter angle ranging from 10 to 50 degrees. Overall dimensions are 24 by 12 by 15 inches. List price is $595.

BREVITY—Identify by IEN-8417 if you write the maker

## TRUCK . . Power lift fork design for fast handling and tiering to 2 ton

Source: ELWELL-PARKER ELECTRIC CO.
4060 St. Clair Ave., Cleveland 14, Ohio

**The operator** rides on a foam-rubber seat cushion in the seat of this new truck. Its controls travel to 5½ mph on a level floor. It can lift a capacity load to 180 in. above the floor in 26 seconds or lower it in 10 seconds. The truck is battery power and motor driven. It measures 130 in. in length with 36-in. forks. Width is 41 inches. Height with the uprights telescoped is 83 inches. The uprights tilt 5 deg. to the front, 12 deg. to the rear, also by hydraulic power.

**Steering** is at the rear axle in large caster-type steering wheels are mounted on horizontal pivot bearings. Turning radius is 134 in. in right-angle aisles. Feature in the construction is the high-mounted double-acting hydraulic hoist cylinder and the anti-friction roller mounting for the telescoping frame so there is rolling contact only. Weight is 7,000 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-8418 if you write the maker

BREVITY—Identify by IEN-8419 if you write the maker

## SEE HOW YOU SAVE with the versatile New Rotor Chippers

USERS of the New Rotor "Multi-Power" Chipping Hammers are enthusiastic about them because they give three big values:

**3 MODELS IN 1.** By a simple change of parts, you can adapt each of the 3 basic models to serve and harmonize with your job: (1) A "regular" model, (2) A "super-speed" model, (3) A "super-tock" model.

**LIGHTER WEIGHT.** These new Rotor Chippers average 1½ to 2 lbs. lighter than other chippers making them easier to handle.

**SHORTER.** Exclusive "dropped" tool makes possible swing of 1" to 2" in length, making it easier to get into those tough, crowded corners.

**FASTER CUTTING.** You get more blows per minute . . . because of new exclusive design.

Get all the facts. Write for catalog No. 10.

AIR O'TOOL

THE ROTOR TOOL CO.
CLEVELAND, OHIO

BREVITY—Identify by IEN-8420 if you write the maker

# CUTLER-HAMMER Small Drum Controllers for Every Purpose

• Here are small drum controllers of every size and for every purpose . . . reversing and non-reversing . . . single and multi-speed . . . for single phase, separate winding, reconnected winding and other squirrel cage motors . . . with radial or tear drop handle, rope, or shipper rod lever actuation . . . surface, cavity or switchboard mounting.

But over and above these features are the concern for correct design, the integrity of engineering purpose and excellence in manufacture that have made Cutler-Hammer products the standard of performance everywhere. Insist on the genuine; it costs no more. CUTLER-HAMMER, Inc., 1378 St. Paul Ave., Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ont.

**Where These Controllers Can Be Used . . . On**

- Woodworking machines
- Small overhead hoists
- Machine tools
- Conveyors
- Tire building machinery
- Commercial laundry equipment
- Electrically operated doors
- Other small motor driven processing equipment

▼ BREEZE—Identify by IEN-8422 if you write the maker ▼

# it's paper

*BUT IT MAINTAINS THE QUALITY OF X-RAY FILM*

To insure the perfection of fine X-Rays, nearly every film manufacturer folds this special Riegel paper around the sensitive films in each package. No less than eleven technical properties must be combined in a single sheet—to guard against difficulties such as scratching, static electricity and chemical or photographic reaction. It's another interesting example of Riegel's ability to make paper for almost any need.

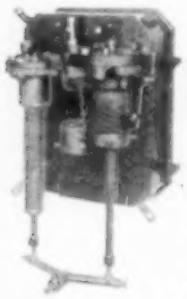
We now produce over 600 grades, many with technical properties that would surprise you. Perhaps one of these Riegel papers can help you. Just tell us what you are looking for, or send us a sample. If we can't make it, we will gladly tell you who can.

RIEGEL PAPER CORPORATION • 342 Madison Avenue, New York 17, N. Y.

**Riegel**

• TAILOR-MADE PAPERS FOR INDUSTRIAL USE •

▼ BREEZE—Identify by IEN-8423 if you write the maker ▼



## Know Your Departmental Steam Costs

How much are you spending on steam for both heating and processing in all your departments? The permanent chart record of a Taylor 1290 Measure Flow Meter will give you the precise answer every day. And all you have to do is glance at the chart to detect any steam waste caused by "frozen up" traps or valves.

**Trouble-Free Performance:** (a) Submerged check valves for positive shut-off. (b) Unique damping valve adjustable under pressure without leakage. (c) Plenty of room in mercury chambers for surges or pulsating flows. (d) Teflon bearings hold pressure, give long service.

**Easy Maintenance:** (a) Easy to reach float and lever arm for calibration. (b) Entire pressure tight bearing easily replaced at low cost. Ask your Taylor Field Engineer! Or write for Catalog 9017.

**Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.** *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

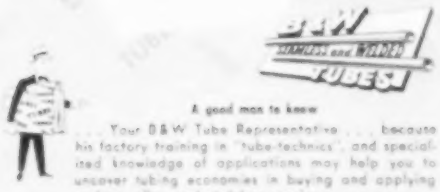
***TAYLOR INSTRUMENTS MEAN "ACCURACY FIRST"***

▼ BREEZE—Identify by IEN-8424 if you write the maker ▼

seamless – welded
carbon – alloy – stainless

# TUBING SATISFACTION for ALL

**pressure and mechanical requirements**



**A good man to know**

. . . Your B&W Tube Representative . . . because his factory training in "tube-technics", and specialized knowledge of applications may help you to uncover tubing economies in buying and applying carbon, alloy and stainless grades.

**THE BABCOCK & WILCOX TUBE COMPANY**
General Offices: Beaver Falls, Pa.
Plants: Alliance, Ohio, and Beaver Falls, Pa.

▼ BREEZE—Identify by IEN-8425 if you write the maker ▼

## COMPRESSOR . . Two stage air cooled, portable, engine drive, 30 cfm., 100 lb.

Source: WORTHINGTON PUMP & MACHINERY CORP.
35-39 Appleton St., Holyoke, Mass.

**Blue Brute** is a new portable compressor available in truck and by trailer designs as shown in this unit and right in the illustration. Twin-in-line air cooled gasoline engine. The assembly includes all basic elements, standard ASME air receivers, suction force lubricator and the company's patented FirstGrade valves. A wide range can be supplied to specifications. Maximum working pressure is 150 pounds. Width is 28 inches. Length is 66 and 75 inches. Weights are 800 and 780 pounds.

▼ BREEZE—Identify by IEN-8426 if you write the maker ▼

## MAGNET . . Tape wound cores in specified size, shape and material

Source: MAGNETICS INC.
Box 761-T, Butler, Pa.

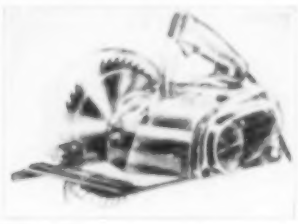
**Engineering help to your request**

The company announces the availability of facilities for manufacture of tape-wound cores for use as control components in equipment such as magnetic amplifiers, pulse transformers, radio transformers, mechanical rectifiers. The cores can be supplied in any of the commercially available magnetic materials currently available in hydrogen. Each core is enclosed in a plastic block box to protect it from cracks or scratching, vibration, shock handling.

▼ BREEZE—Identify by IEN-8427 if you write the maker ▼

## WOOD WORKING . . Portable saw employs belt connected 1½ hp. motor

Source: SYNTRON CO.
410 Lexington Ave., Homer City, Pa.



**The spindle** in this new portable electric saw mounts an 8½ in. circular blade and is connected to the 1½ hp. universal motor by dual flexible rubber V-belts to cushion the drive and take shock loading. The assembly employs metal stampings in its housing to stand up to rough service. It has an adjustable base to set square and adjust for cut depth to 2¼ in. or to tilt up for bevel cuts to 45 degrees. To operate D-56, operates on 110-volt a.c.-d.c.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 10*

▼ BREEZE—Identify by IEN-8428 if you write the maker ▼

# Here's the right iron for EXTRA HEAVY DUTY SOLDERING

Super-powered at 700 WATTS!

The ideal Iron for heavy soldering and large branches. 700 watts with tip 1¼ inches in diameter. Heavy-duty construction from tip to cord terminal. Rugged long-life heating element with case made from solid hexagonal steel for extra strength. Operates on any cycle AC or DC current. Furnished for either 110 or 220 volts.

HEXACON MODEL 700
$27.00
An Iron for Every Soldering and Branding Need

There is a quality made Hexacon Iron for every one of soldering or repair work. Hexacon irons include screw tip, plug tip and hatchet types with tip diameters from ¼ to 1¼ —from 40 to 700 watts. Write for illustrated catalog.

HEXACON

**HEXACON ELECTRIC COMPANY**
166 WEST CLAY AVE. • ROSELLE PARK, NEW JERSEY

▼ BREEZE—Identify by IEN-8429 if you write the maker ▼

OTC *REPLACE 29 SIZES WITH THESE TWO*

# NEW GIANT ALLOY adjustable wrenches

**THINNER-LIGHTER-STRONGER**

Until now 29 wrenches have been needed to handle the jobs done by these two new giant adjustable wrenches. They are THINNER—get at the work easier. Strong—designed for added strength at average prices. Lighter—make job pressing easy. Economical—save time, tools and materials. Large jobs become simple ones.

Giant alloy wrench No. OA-24 is 24" long, 1" thick, weighs only 20 lbs. and adjusts to 13 standard sizes from 1¼" to 2¼. OA-30 is 30" long, 1¼" thick, weighs only 32 lbs. and adjusts to 16 standard sizes from 1 15/16" to 4½".

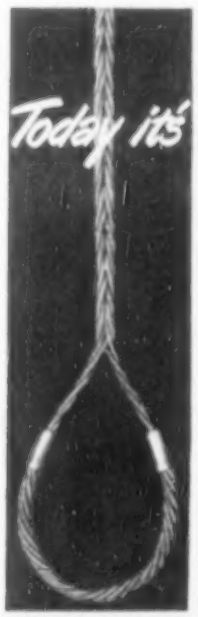
REPLACE 29 SIZES PATENT APPLIED FOR

*ANOTHER EXAMPLE OF ENGINEERING THAT MAKES OTC TOOLS OUTSTANDING*

**OWATONNA TOOL CO.**
371 CEDAR ST., OWATONNA, MINNESOTA

OTC

▼ BREEZE—Identify by IEN-8430 if you write the maker ▼



TO LIFT LOADS FASTER — CHEAPER —

# Today it's Roebling!

**ROEBLING "FLATWEAVE" SLINGS**

YOU'LL SAVE TIME and money with Roebling "Flatweave" Slings. Their broad, flat bearing surface distributes the load pressure and prolongs the life of the sling. And "Flatweaves" are easier and quicker to handle! They're very flexible and kink resistant . . . pass readily through and under loads of minimum clearance . . . heavy thimbles and servings are not needed.

Adopt Roebling "Flatweave" Slings for top speed, safety and economy. And write today for a copy of the "Roebling Sling Data Book". It's free . . . gives the latest information about slings and sling accessories. John A. Roebling's Sons Company, Trenton 2, New Jersey.

**ROEBLING**
A CENTURY OF CONFIDENCE

▼ BREEZE—Identify by IEN-8431 if you write the maker ▼

# THIS TOOL IS WORTH $12,500

ROTARY IMPACTOOL

The shop that can do a 5-hour job in 1 hour and 5 minutes, is bound to make money, for that 54% saving in labor time is pure profit. This is the accomplishment of a well-known motor rebuilding company located in the Southwest, which uses four Ingersoll-Rand electric Impactools in boring down and assembling automobile engines.

The switch to electric Impactools saved 115 minutes per engine, which enabled them to increase their production by 3 completed engines per day. This meant an additional clear net profit of $231 per day, figured conservatively, or $50,000 a year . . . $12,500 for each Impactool. Needless to say, the cost of the tools was amortized in just a few days.

*Send for your copy of Report 5082-A which gives all the names, facts and figures on this outstanding extra-profit story.*

Ask your Jobber for an Impactool demonstration

**Ingersoll-Rand**
11 Broadway, New York 4, N. Y.
559-18
Originator of Impactools — Air and Electric

▼ FREE!!!—Details by IEN-8432 if you write the maker ▼

*The Experts Choose*

## CHALLENGE WORK BENCHES

Four Sizes
30 Inches Wide by 4 ft. Rim-Front and Top. For 2 Inches Thick

**BECAUSE THEY HAVE**

1. Heavily ribbed, smoothly machined unyielding cast iron tops
2. Table equipped with lock leveling screws
3. Sturdy, steel, welded base with large steel shelf
4. Steel tool box shelf supported clear of bench top
5. Steel guard rail at back
6. Steel drawer with lock
7. Portability

Challenge

**THE CHALLENGE MACHINERY CO.**
GRAND HAVEN, MICHIGAN

▼ FREE!!!—Details by IEN-8433 if you write the maker ▼

*LESS* CLEANING TIME

*MORE* PRODUCTION TIME

*WITH A*

*Doyle* VAC-IT

Subtract from cleaning expenses and add to production profits the time you can save by taking advantage of the powerful cleaning capacity of the Doyle Vac-It. Production machinery is thoroughly cleaned and freed of all clogging dust, dirt and grime in a fraction of the time ordinary cleaning methods take. Metal chips, shavings, grease and liquids are quickly removed from working surfaces leaving them clean and dry. So efficiently does the Doyle Vac-It perform that it is not necessary to stop production or shut down machinery during cleaning.

Write today for informative Doyle Bulletins. See how you can cut cleaning time and costs throughout your entire plant.

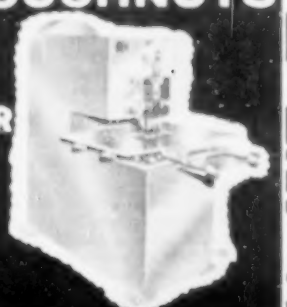
**Doyle VACUUM CLEANER CO.**

2235 Stevens St., S. W. Grand Rapids 7, Michigan

▼ FREE!!!—Details by IEN-8434 if you write the maker ▼

**LIKE BITING HOLES IN DOUGHNUTS**

**THE SEMCO NIBBLER PRESS BITES HOLES INTO STEEL**



WRITE FOR PRICES AND DATA TODAY

**SERVICE MACHINE COMPANY**
INCORPORATED
200 MILLER STREET, ELIZABETH, N. J.

▼ FREE!!!—Details by IEN-8435 if you write the maker ▼

## MOTOR . . Single and three-phase ac., 1/6 to 5 hp. with worm-and-gear head

Source: ABART GEAR & MACHINE CO.
4830-34 16th St., Chicago 50, Ill.

New line of geared-load motors, outside ratings from 1/6 to 5 hp., speed reduction ratios from 5 to 1 to 100 to 1 for output speed from 175 to 30 rpm. The motor is available in single and three-phase arrangement, drip-proof, totally enclosed or externally fan-cooled. Dual voltage also can be specified. All are ball-bearing designs, unless noted. Twenty assemblies have base dimensions of 5¼ to 10½ in. as low with the motor axis 3¼ to 6½ in. in width and shaft under as 2½ to 5½ in. above the base. Overall length is low with the motor or 13½ to 27½ inches.

**Bulletin B-250**, 4 pages, lubricating valve, torque, model numbers, line numbers, and quick list prices in single and three-phase assemblies. Dimension diagrams and table are included.

▼ FREE!!!—Details by IEN-8436 if you write the maker ▼

## EXTINGUISHING . . Foam liquid stops fires in inflammable liquids

Source: ROCKWOOD SPRINKLER CO.
16-40 Harlow St., Worcester 5, Mass.

**Supplements regular Foam**

**Double Strength** is a new type of liquid foam for use in general designs of FogFoam and Foam nozzles to have more of that type time where normal proportioning is provided. It mixes quickly with water, clings to smooth vertical and metal surfaces, seals off the combustible vapors, reseals if the blanket is broken. The liquid flows freely at temperatures as cold as 20 deg. F. The foam blanket remaining after the fire is extinguished can be removed up without difficulty.

▼ FREE!!!—Details by IEN-8437 if you write the maker ▼

## TRUCK . . Hand shelf design to handle tools, small parts, supplies

Source: BAY METAL PRODUCTS
3001 N. 16th St., Philadelphia 32, Pa.

**Two sizes**, both duty in, overall, measure 18 by 30 in. and 24 by 30 in. in this new shelf truck. Finish is baked green enamel. Mounting is on 3 in. rigid and swivel casters with rubber-tired or steel wheels to specifications.

**The shelves** are made of 14 gage steel with a 2 in. flange and welded assembly to the 1¼ in. angle uprights. Shelf drawers are folded back to dimensions to prevent smooth beveled edges. All but the bottom one can be turned to turn down. List price is $20.29 and $21.35 without the drawers mounted in the illustration. These drawers with slides and a lock can be supplied on special order.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — Net Prices

▼ FREE!!!—Details by IEN-8438 if you write the maker ▼

## Save Valuable Space With the JOY WG-9 "Industrial-Air" COMPRESSOR

The WG-9 features the JOY "Dual-Cushion" Valve for top efficiency in continuous heavy-duty service. Vertical design and small base mean savings on floor space. Fourteen sizes from 98 to 822 CFM. The complete JOY line includes compressors from 85 to 7,512 CFM capacity—the most modern available for either centralized or decentralized air supply. *Write for Bulletins.*

*Consult a Joy Engineer*

**JOY MANUFACTURING CO.**
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

▼ FREE!!!—Details by IEN-8439 if you write the maker ▼

O-B No. 11 Outside Screw Bonnet Valve. Available in globe or angle from ½-inch to 3-inch sizes and suitable for general industrial use on air, oil, gas, water or steam. Furnished with 150 lb. W.S.P. steam discs for temperatures up to 350° F. Other type discs available on request.

**REPLACING WORN VALVES** *again?*

You can end the valve replacement problem in your plant at no extra cost. Extra heavy, solid cast O-B valves provide the sturdiness you need for safety on higher industrial pressures and steam service. All parts are cast of high grade bronze and accurately machined to assure you leaktight joints and trouble-free operation.

Disc change is simple for the outside screw-over bonnet design permits easy take-down.

See your local O-B distributor whenever you need a better industrial valve.

OHIO BRASS COMPANY MANSFIELD 17, OHIO

**Ohio Brass VALVES**

▼ FREE!!!—Details by IEN-8440 if you write the maker ▼

## DOLLIES & TRUCKS

● A general purpose dolly with open frame and flush top. Light and easy to carry yet capable of handling heavy loads. Equipped with four swivel casters having 3" semi-steel or rubber tired wheels.

★ Ironbound material handling representatives are located in all important cities. These men can help you with all handling problems involving the use of standard Skids, Semi-Live Skids, Floor Trucks, Roll Handling Trucks, Dollies or specially designed adaptations to meet particular requirements.

**IRONBOUND**

*FLO TRUK*

● Popular as an all-purpose general merchandise unit. Ruggedly constructed — selected hardwood deck. Equipped with rubber tired or semi-steel wheels.

Ask for Catalog GF-7

**IRONBOUND**
BOX & LUMBER COMPANY
32 HOFFMAN PLACE • HILLSIDE N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS

▼ FREE!!!—Details by IEN-8441 if you write the maker ▼

## AMAZING SAVINGS in HANDLING BULK MATERIALS or SMALL PARTS

**PICK IT UP AND MOVE WITH AN ALLEN SHOVEL**

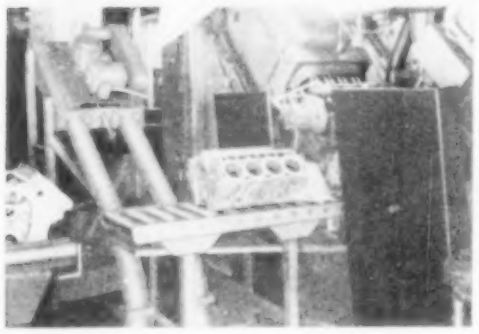
ADAPTABLE TO ALL MAKES OF INDUSTRIAL LIFT TRUCKS

**ALLEN INDUSTRIAL PRODUCTS, Inc.**
BATTLE CREEK, MICH.

IEN-8442

IEN-8443

*Fine Car* Manufacturer
SELECTS
*Houdaille* CONVEYOR
*to solve difficult chip removal problem*

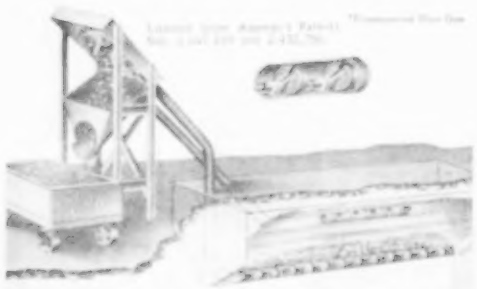


Because it is readily adaptable to almost any layout or traverse requirement, Houdaille Conveyor solved an almost impossible chip removal problem of this large valve car plant. Conveyor has been in continuous operation for more than a year without shut down or maintenance attention, satisfaction paid for itself in one year. Write for this revealing case history today!

**Houdaille will do the job for YOU!**

Houdaille Conveyor's automatic locking and continuous traverse transport is adaptable to handling any solid or fibrous material which will settle to the bottom of a tank or hopper. Suggested uses include:

METAL WORKING INDUSTRY
MATERIAL FROM DUST COLLECTORS
PLASTIC POWDERS
PACKING PLANTS
SOAP MANUFACTURING
MANY OTHERS

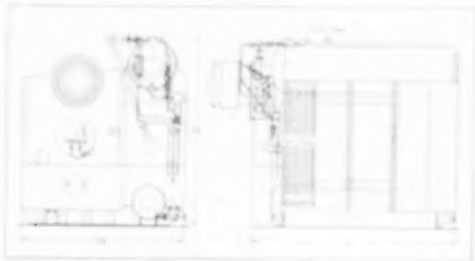


Honan-Crane Corp.
Houdaille-Hershey Corp.

IEN-8445

**BOILER . . Self-contained assembly water tube design, oil and gas fired**

Source: BABCOCK & WILCOX CO.
85 Liberty St., Room 1011, New York 6, N. Y.



Type FM is a new design in the company's forced firetype Unitube boiler. It is characterized by the fixed-tube sheet, operated upward, straight tube construction, to obtain high thermal capacity, power and stage loss. The boiler burns oil and gas interchangeably. It is started and stopped by pushbutton action. A steam pressure controller operates operations in step with load fluctuations. Combustion air is provided by a forced draft fan. Cleaning equipment is a manual operation or operation automatically from the boiler.

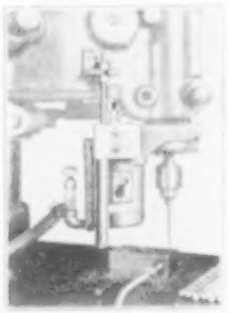
Nine sizes (200 to 2000 H.P. of steam per hr. to boiler, or power equivalent to generator from 45 to 450 peak kilowatts). Temperature range 120 F. to 400 F. Gas to 15 lb. Height 125 to 200 in. to length, depending on size, to 30.5 ft. to 36.5 ft. depending on size. Weight 12,000 to 30,000 lb. to 70,000 lb. depending on size.

Bulletin G-22, 12 pages, describes the unit, presents performance charts, lists installations, and shows the combustion system in cutaway and component view.

IEN-8446

**DRILLING . . Feed attachment pneumatic cylinder, hydraulic retarder**

Source: MEAD SPECIALTIES CO.
4112-16 N. Knox Ave., Chicago 41, Ill.



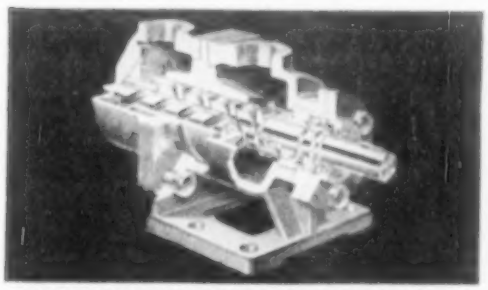
Hydro-Check is a new set of devices for use with the cylinder part of pneumatic feed for a drilling machine spindle, per patent application ITS-12616 H. The cylinder-mounted assembly on the side of the cylinder and the piston-rod-mounted piston, and cams now bracket on the tool chuck head which can adjust the cam tips for and for live or non-live movement. The cylinder is filled with hydraulic oil which can flow freely in one direction and is restricted or controlled adjustable in the other.

Movement of the tool chuck upward is free until one of the adjusting cam tips is hit by the bracket. This results in actuation of hydraulic control and is followed immediately by a pneumatic release of the feed cylinder. The pneumatic feed cylinder then provides the power feed automatically, as cylinder work is carried in efficient manner and with a 1:1 ratio. The pneumatic feed cylinder and hydraulic retarder are shown "together."

*All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 38*

IEN-8447

# A NEW IMO PUMP
## AT LOWER COST THAN EVER BEFORE!



**ALL THESE ADVANTAGES AT LOWER COST THAN EVER BEFORE**

RELIABILITY—no gears, vanes, pistons. Nothing to get out of order or adjust. The mechanical packing seals never require attention.

QUIETNESS—no noise, no vibration.

FREEDOM FROM PULSATION—continuous, axial flow.

HIGH SPEED OPERATION—for direct connection to motors, turbines, and machines.

Send for Catalog 1784-G

Capacities to 80 gpm; pressures to 150 psi. For lubrication service, oil transfer, low pressure, hydraulic systems, and general pumping of oil and viscous fluids.

IMO
I MOVE OIL

IMO PUMP DIVISION of the
DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

IEN-8448

# Save Money
## on Pyrometer Accessories

You save, first, by purchasing thermocouples and pyrometer accessories in large lots, benefiting from quantity discounts.

You save, second, by having adequate reserves always on hand, thus avoiding delivery delays which might be costly.

Investigate Bristol's "Turn-Up" Pyrometer Supplies Plan. SEND FOR FREE 36-PAGE BUYERS' GUIDE AND USERS' MANUAL.

Bristol carries stock for immediate shipment in Waterbury, Conn., Chicago and San Francisco. THE BRISTOL COMPANY, 107 Bristol Road, Waterbury 20, Conn. (The Bristol Company of Canada, Ltd., Toronto, Ont.)

**BRISTOL**
AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

IEN-8449

**NEW *Empco* JACK Gives you Quick Accurate Machine Leveling and it ABSORBS *VIBRATION***

New type JACK greatly reduces noise and vibration with VI-SORB Mounting Pads.

**VI-SORB Mounting Pads**

The combination of a new Empco Jack and VI-SORB is a long step forward in setting and keeping precision equipment level while combating the destructive forces of vibration.

Empco Jacks are self-adjusting to give you the quickest, easiest, most accurate machine leveling ever known.

For precise machine leveling and maintenance you will save time and money if you use Empco Jacks with VI-SORB Mounting Pads. Write for complete information and prices today!

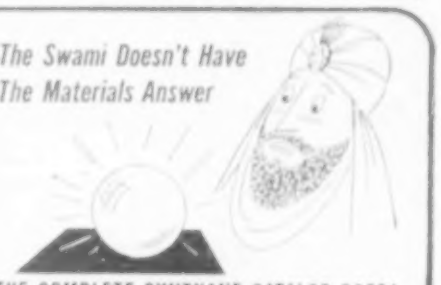
Remember: A level machine can be the difference between better work and less loss!

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

IEN-8450

*The Swami Doesn't Have The Materials Answer*



**THE COMPLETE SYNTHANE CATALOG DOES!**

Planning new parts and equipment, or merely augmenting products and processes to assure where you have previously drawn on Synthane Laminated Plastics for Industry? You'll find them in the new Synthane Catalog.

It will help you find ideas on both material and fabrication, as it contains the salient facts on grades, properties, specifications and forms of Synthane. You'll want a copy in your office library as a most permanent reference book.

Mail the coupon today for your free copy.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS

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MOLDED LAMINATED
MOLDED MACERATED

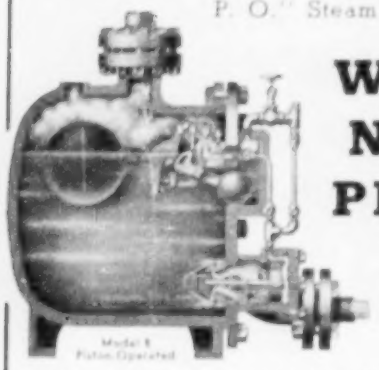
SYNTHANE CORPORATION
South River Road, Oaks, Pa.

Please send me a copy of the complete Synthane catalog.

Name _____
Firm _____
Address _____
City _____ State _____

BREEFIT—Ideally by IEN - 8451 if you write the maker

These Nicholson "Large Capacity P. O." Steam Traps




# WILL NOT PLUG

Send for Catalog 250

Because of their unfailing capacity for discharging dirt, scale and boiler compound as well as condensate slugs, thousands of Nicholson piston-operated traps are today installed on steam purifiers. Also widely used for superheated steam, headers, separators, heaters, long lines. Feature large valve orifices, up to 2". Won't fack even if cooked dry; rugged working parts of stainless steel. Press. 2 to 650 lbs.

**W. H. NICHOLSON & CO.** 19 OREGON STREET WILKES-BARRE, PA.

Sales and Engineering Offices in 31 Principal Cities

BREEFIT—Ideally by IEN - 8452 if you write the maker

A DRILL JIG BUSHING —THAT'S DIFFERENT!

**MEYCO**

Carbide Inserted Bushings live longer, cost less in the long run.

Here is a bushing that combines the low frictions of steel and carbide, the protection of steel and the long life of carbide. First cost slightly higher than ordinary steel bushings; their life, many, many times as great. In addition to such obvious savings, MEYCO bushings increase the life of drills and reamers, produce accurate work for a longer period of time, save on machine-down time and on non-productive man-hours.

FUMP MAKER SAYS: "Where a jig stage where four holes are held to a tolerance of plus or minus .005" on the spacing, in five months, after completing 50,000 parts, MEYCO bushings show no sign of wear."

Made to A.S.A. Standards; look into this "different" bushing, and cash in on the savings.

For information and prices write for Meyco Bushing Catalog No. 18.

**W. F. MEYERS CO., INC., BEDFORD, INDIANA**

BREEFIT—Ideally by IEN - 8453 if you write the maker

*the more you* **Aetna-ize...** *the more you* **ECONOMIZE!**

There's no economy in leaving vital contact points bearingless. Precision bearings cost LESS than most any other mechanism you can install in the machines you make or use—yet contribute MORE to machinery efficiency, life span and value.

But don't take a chance on inferior bearings. They may only give you headaches, even risk your product's reputation. Safe course is to always specify Aetna high precision, anti-friction products. Their unmatched uniformity and quality assure TRUE economy, lowest final costs.

**AETNA BALL AND ROLLER BEARING COMPANY**
4600 SCHUBERT AVENUE • CHICAGO 39, ILLINOIS
Representatives and Distributors in Principal Cities

WRITE FOR CATALOG

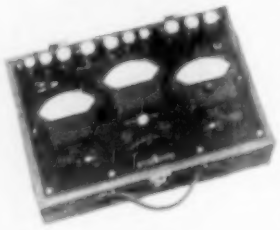
**Aetna**

Standard and Special Ball Thrust Bearings • Special Roller Bearings • Angular Contact Ball Bearings • Ball Retainers • Hardened and Ground Washers • Sleeves • Bushings

BREEFIT—Ideally by IEN - 8454 if you write the maker

## METER . . Combination instrument reads volts, amperes, watts for test

Source: INSTRUMENT LABORATORIES
317 W. Walton Place, Chicago 10, Ill.



**Industrial Analyzer** Model 247 is a new combination of voltmeter, ammeter and wattmeter in a single housing that measures 14½ by 10 by 5 inches. The voltmeter reads in three ranges maximum at 150, 300 and 600 volts. The ammeter, also in three ranges reads to 5, 25 and 125 amperes. The wattmeter is a single phase unit with basic range to 6 kw. and maximum range to 60 kw. in suitable steps. Accuracy of the first two meters is within 1 per cent. It is within 1½ per cent for the wattmeter in a range from 25 to 150 watts. All scale lengths are 2 inches.

**List price** is $325. A set of six leads adds $45. Ampere and watt ratings can be extended by external 5 amp. secondary current transformers that are available to specification. Assembly is in an oak carrying case with a removable cover. Ammeter and wattmeter are protected against overloading.

BREEFIT—Ideally by IEN - 8455 if you write the maker

## RECTIFYING . . Electronic assembly ratings to 230 volts and 87 amperes

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., Box 868-A, Pittsburgh 30, Pa.

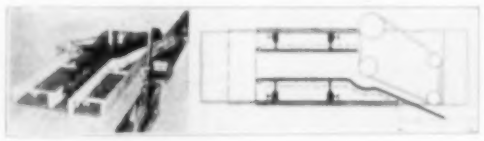
**Factory assembled shipped as a unit**

All components in a new electronic rectifier for general industrial use are assembled in a steel rectangular floor-equipped enclosure for floor or wall installation. Each assembly is equipped with separate compensating attachments for filament voltages. Certain of the designs provide adjustable voltage output between 60 and 100 per cent of rating. Operation is on 110/220 or 220/440 volts single or 3 phase ac.

BREEFIT—Ideally by IEN - 8456 if you write the maker

## CONVEYING . . Attachment for flasks applies on company's unscrambling table

Source: ISLAND EQUIPMENT CORP.
27-03 Bridge Plaza N., Long Island City 1, N. Y.



**Panelled flasks,** Type F spool cans, similar flat-sided core liners are received at random and are aligned correctly for movement to a labelling machine by this new attachment. It applies on the company's Stylo-Matic Straightline unscrambler, is adjustable for a range of contained sizes. It is shown in heavy outline in the illustration. List price is $750.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings . . . See Page 50*

BREEFIT—Ideally by IEN - 8457 if you write the maker

## LONG LIFE OF SUSTAINED ACCURACY ACHIEVED BY MAGNETROL MECHANISM

## only Yale Load King Scales have it

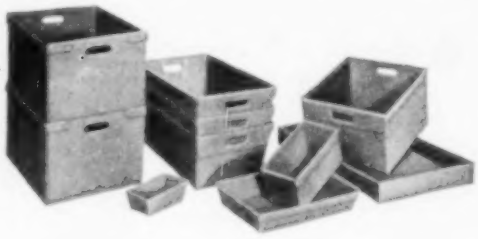
- Types include: bench, portable platform, dormant platform, motor truck, counting, overhead track, batching, measuring, testing models.
- All platform types have outboard bearings; no tipping.
- Capacities up to 60,000 lbs. depending on type.
- Write for literature.

**YALE** THE YALE & TOWNE MANUFACTURING CO.
Roosevelt Boulevard • Philadelphia 15, Pa.
HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES

BREEFIT—Ideally by IEN - 8458 if you write the maker

# CONVOY TOTE BOXES

## Increase Payload . . . Reduce Cost



**LIGHTWEIGHT**—2 qt. 9 Convoy Stacking Tote Box weighs only 8½ lbs.

**CHEMICALLY HARDENED CORRUGATED BOARD**
Many Convoy Tote Boxes have been in active daily use for more than two years—exclusive chemical impregnation process binds and hardens corrugated board.

**NO MAINTENANCE**—Convoy Tote Boxes are so inexpensive that they can be discarded when they finally become unserviceable.

**Over 100 Stock Sizes Available Now**
*Write for sizes and prices*

**CONVOY, INC.** P. O. Station B, Box 216-T CANTON 6, OHIO

BREEFIT—Ideally by IEN - 8459 if you write the maker

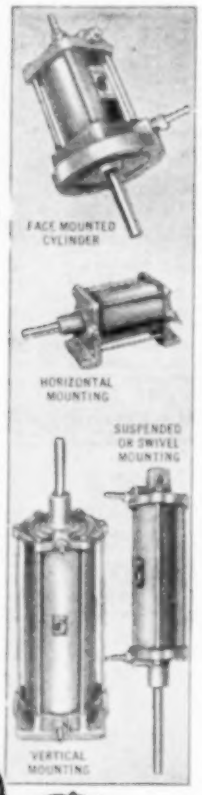
*Let* **MEAD'S**

# STEEL-FINGERED GIANTS

## DO THAT JOB

*Faster, Better, Cheaper*

Shown the standard ready-made fixtures for the application of Air Power such as the Air Press, Air Vise, Air Chuck, Air Clamp. Mead offers a wide selection of air cylinders, which can be used in special jigs and fixtures. Illustrations show four types of double-acting cylinders which can be furnished in five different bores with optional lengths of stroke.




## *Use MEAD AIR POWER*

Get faster, more economical production set-ups—investigate the entire "family" of Mead Air-Operated devices. Do you want to move things — lift them, slide them, tilt them — or hold them firmly? Mead Air Power will do it. Do you need a delicate flexible touch—or tremendous power? Mead Air Power has both.

**CATALOG READY**
Send for copy of our new Air Power Catalog illustrating, describing many new man- and money-saving devices.

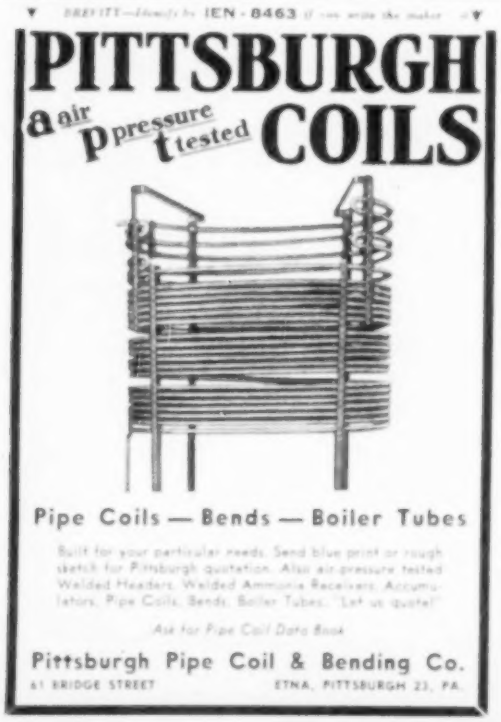
**MEAD AIR OPERATED DEVICES save precious man-hours!**

**MEAD SPECIALTIES COMPANY**
414 NORTH KNOX AVENUE
DEPT. EA/16 • CHICAGO 4, ILL.

▼ BREVITY—Identify by IEN-8461 if you write the maker ▼

▼ BREVITY—Identify by IEN-8462 if you write the maker ▼

▼ BREVITY—Identify by IEN-8463 if you write the maker ▼




▼ BREVITY—Identify by IEN-8464 if you write the maker ▼

## PIPE FITTING . . Coupling clamps resilient sleeve to join pipe

Source: MORRIS COUPLING & CLAMP CO.
1201 Beaver Ave., Ellwood City, Pa.

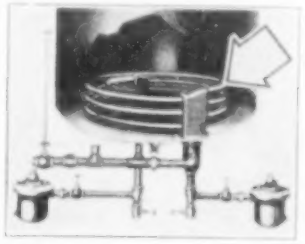
New sizes have been added to the Morris line of pipe couplings and repair clamps previously described. IEN-4760-68. New materials are available for the clamping body as well as the inner resilient sleeve. The coupling is now made in pipe sizes from 3 to 8 in. to join the ends of plain or threaded pipe or combinations of the two. The clamping body is either aluminum or zinc-coated steel. It is made in pipe sizes to 24 in. for use individually or in series to repair pipe that has split. The sleeve is supplied in suitable materials; cork, Fiberglas, neoprene, or other material to meet given requirements.

**Construction** employs the outer clamping body with flanges formed over reinforcing bars and fitted with carriage bolts and nuts. Inside this body is a split steel or aluminum sleeve and inside it is the resilient sleeve. The latter is made with floating teeth to eliminate any continuous longitudinal opening. The assembly opens to apply on a pipe, is not limited to application at the open end. Overall length of the coupling is 4 to 10 in. in 1 to 8 in. pipe sizes. List price is $1.80 to $11.50 in steel, $2.40 to $15.30 in aluminum. The price per unit coupling are based on cartons containing 12 to 6 units. There is an additional charge of $1 for sometimes-carrying box.

▼ BREVITY—Identify by IEN-8465 if you write the maker ▼

## HEATING . . Header equipped coil carries steam for process heating use

Source: F. H. LANGSENKAMP CO.
229-233 E. South St., Indianapolis 4, Ind.



**Kook More Koil** is a new assembly of 3/4 in. tube in three tube runs out of and back to a divided header to form complete circles. The assembly is made in 42 and 60 in. diameters, a set consisting of one of each, with independent steam supply and condensate trap. Capacity at 125-lb. steam is sufficient to raise 10,000 gal. of water from 60 to 212 deg. F. in boil it violently in an hour. The same set will evaporate 1,500 gph. of water.

**The design** assures rapid circulation of steam, complete removal of condensate. Materials for the coils can be copper, nickel, Type 304 or 316 stainless steel or other metal to specification. Pressure limit is 150 psi/sq. Inverted traps are supplied with the coils, the unit for the 60 in. size rating 40,000 lb. per hr. and having 1½ in. connections.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-8466 if you write the maker ▼

▼ BREVITY—Identify by IEN-8467 if you write the maker ▼

▼ BREVITY—Identify by IEN-8468 if you write the maker ▼

▼ BREVITY—Identify by IEN-8469 if you write the maker ▼

IEN-8470

**NEW! NEW! NEW! NEW! NEW!**
***MEASURES POWER WITHOUT INTERRUPTING SERVICE !!***

## Hook-On Wattmeter

List Price $84.75

With G-E's new hook-on wattmeter you can measure any power without cutting conductors or interrupting service. Just slip the tong-voltage scale to terminals or binding posts, snap the hook around the conductor, and you're ready to read.

It's ideal for trouble shooting power sources, many other applications. Simple to use, weight only 3½ pounds. Ask your local G-E distributor about the DR-2 wattmeter, or write Apparatus Department, General Electric Company, Schenectady 5, N. Y.

**GENERAL ELECTRIC**

IEN-8471

***New* DUMORE AUTOMATIC DRILL HEAD**

**Cuts costs *6* ways on small-hole drilling**

Here is the most revolutionary production tool ever offered to the small-drill user — a compact, completely automatic drill head with self-contained air, controlled feed and speed, and extreme flexibility of set-up.

Because it operates at, but never over, optimum capacity of the drill, it gives you maximum production with minimum drill breakage — drill savings alone pay for the tool in short order on the economy of installation.

See the New Automatic Drill Head at your Dumore Distributor or write today for free 16-pg. bulletin.

*Check these exclusive features*

- More Holes per Minute
- Less Drill Breakage
- Less Scrap Loss
- Fast Set-up
- Self-Contained Air
- Lower Labor Costs

**The DUMORE Company**
1300 17th St., RACINE, WISCONSIN
Export address: 13 E. 40th St., New York, N.Y., U.S.A.

IEN-8472

**Largest dental equipment company makes all castings with DETROIT ROCKING ELECTRIC FURNACE melts**

S. S. White Dental Manufacturing Company, Stokes Island, makes everything in dental needs. A great many castings go into their chairs, tables, control and operating equipment. All metal cast in their precise castings is melted in Detroit Rocking Electric Furnaces.

READ THE ADVANTAGES

Better control of analysis. Smoother Surface Finish. Cleaner operation. Savings in floor space. Faster melts, higher usable yields, fewer rejects.

Get the facts on Detroit Rocking Electric Furnace operation for your foundry! WRITE TODAY!

**DETROIT ELECTRIC FURNACE DIVISION**
KUHLMAN ELECTRIC COMPANY
1050 26th St. • BAY CITY, MICHIGAN

IEN-8473

**DRILLING . . Double head machine to countersink, chamfer, remove burrs**

Source: BLACK DRILL CO.
1402 E. 222nd St., Cleveland 17, Ohio.

New assembly of the company's power-feed, overhead crossing-shaft motor-and-drilling heads gives the machine to accomodate and perform minor operations on small work pieces, by a minimal influence holder. The motor shaft carry visible chamfer on stage facing tools and are fitted with tool brackets at the opposite ends to be operated from a foot pedal, operating through lever action. Machines actual power of 2 p.m. for each head.

The machine is built to specification and can be equipped with 3/4 to 1 hp. motors operating at 400 to 3,000 rpm. Single spindle and two and one spindle.

IEN-8474

**PROTECTING . . Goggles for foundries to stop sparks, flying chips, dirt**

Source: AMERICAN OPTICAL CO.
12-16 Mechanic St., Southbridge, Mass.

New design of the company's No. 202 and No. 206 foundry goggles now includes a tough plastic mask in place of the leather previously used. The new mask can be bent and remains flexible and soft when exposed to moisture. The ventilated metal frames are rust-resistant.

IEN-8475

**DRIVE . . Two speed transmission for motor speed reduction to 6 to 1**

Source: WESTERN MFG. CO.
3402 Scotten Ave., Detroit 10, Mich.

New 20 hp. assembly has been added to the company's 2 to 20 hp. line of two-speed transmissions. The new unit provides for alternate output speed at 1800 rpm and maximum reduction of the lowest of the two reduction of 6 to 1.

Any reduction other than the two-speed from motor speed can be specified.

The transmission employs [illegible] which can be [illegible] for reverse with gearing arranged so reversing the motor selects one of the other speed without reversing the output shaft.

*All Makes of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30*

IEN-8476

**CHIKSAN**
**HIGH TEMPERATURE (Chevron Packing) BALL-BEARING SWIVEL JOINTS**

Widely used for handling acids and other highly corrosive liquids and gases under pressures to 700 psi. and temperatures to 500° F. Eight different styles in sizes from ⅜" to 4". Easy turning on stainless steel balls in flame-hardened races.

*There is a CHIKSAN Swivel Joint for every need*

**CHIKSAN COMPANY**
AND SUBSIDIARY COMPANIES
Chicago 3, Ill. BREA, CALIFORNIA Newark 3, N. J.
WELL EQUIPMENT MFG. CORP. HOUSTON 1, TEXAS
CHIKSAN EXPORT CO. BREA, CALIFORNIA NEWARK 3, N. J.

BALL-BEARING SWIVEL JOINTS FOR ALL PURPOSES

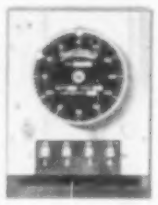
IEN-8477

**Zenith**

Performance . . .

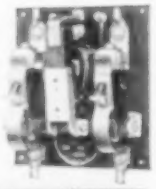
Zenith means "a short point." This literally describes Zenith dependability, "on the dot," as shown by records of long trouble-free, maintenance-free service in widest range of control uses.

**Zenith automatic controls**



Cover the field: Magnetic Contactors Remote Control, Reset, Interval and Program Timers, gearless, stainless impulse Timers, Program Clocks — [illegible] equipment for your special needs.

WRITE NOW FOR COMPLETE CATALOG!



**ZENITH ELECTRIC CO.**
146 W. WALTON ST., CHICAGO 10, ILLINOIS

IEN-8478

***"Catsup* ON YOUR ICE CREAM?"**

Just because you used catsup on your steak, the waiter shouldn't assume you use it on the rest of your dinner too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for all bearings on that machine. In many cases it isn't.

**OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little*.**

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

*Write for free Price Guide Catalog*

**GITS BROS. MFG. CO.**
1854 S. Kilbourn Ave. • Chicago 23, Ill.

IEN-8479

**A MUST! for PERMANENT MOLDING use GRAFOLUX**

Grafo

A GRAFO COLLOIDAL PARTING COMPOUND

*That Insures*

LONGER MOLD LIFE
EASIER PARTING
TOP PRODUCTION
SURFACE QUALITY

A WORKING SAMPLE SENT ON REQUEST

Other Grafo Colloidal Products Available for All Industrial Lubrication

Grafo Colloidal Graphite may be obtained in water, petroleum oil and castor oil, in concentrated, semi-concentrated and ready-for-use mediums.

Write Us Regarding Your Special Application

**GRAFO COLLOIDS CORPORATION**

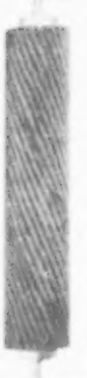
MANUFACTURERS OF COLLOIDAL PRODUCTS

SHARON, PENNSYLVANIA

▼ BREVITY—identify by IEN-8480 if you write the maker ▼

*Have* YOU *discovered*

# JENKINS' INDIVIDUALIZED METLKOR CYLINDER BRUSHES?



Its smooth, vibrationless performance makes the first minute of use on any machine something worth remembering. Years from then, there will be no let-down of its original performance to mar first impressions. HERE ARE THE REASONS:

1. EVERY METLKOR BRUSH IS INDIVIDUALLY MANUFACTURED to exact specifications for its intended use.
2. CORES OF ALUMINUM, COLD DRAWN STEEL, STAINLESS STEEL, COPPER, OR BRONZE ... are practically indestructible.
3. ANY TYPE OF BRISTLE IS SET ON CORES BY A PATENTED PROCESS using bands of shaped metal and baked plastic cement to make these brushes impervious to moisture, acid and alkali resistant, and easy to clean.
4. WHEN, AT LONG LAST, BRISTLE REQUIRES RENEWING, the entire brush is made like new again by our patented process.

JENKINS' METLKOR BRUSHES ARE DYNAMICALLY BALANCED when extreme speed is a requirement.

**M. W. JENKINS' SONS, INC.**
**CEDAR GROVE ESSEX COUNTY NEW JERSEY**

▼ BREVITY—identify by IEN-8483 if you write the maker ▼

## PUMP . . Single stage centrifugal, 20 to 550 gpm. on head to 250 feet

Source: INGERSOLL-RAND CO.
746 Morris Ave., Phillipsburg, N. J.

**Four sizes** [illegible]

**Assembly** [illegible]

**The pump alone** [illegible]

▼ BREVITY—identify by IEN-8486 if you write the maker ▼

## do it the easy way

## . . . GET A "DRI-R-AIR" AUTOMATIC TANK DRAIN

Here's the new, easy, economical way to remove water that collects in the tank of air compressor having blind or pressure type unloaders. Quincy Automatic "DRI-R-AIR" Tank Drain eliminates manual draining. [illegible] and upkeep costs. Easy to install.

**Quincy** COMPRESSORS
QUINCY COMPRESSOR CO.
Dept. H-90, Quincy, Illinois

SEND FOR FREE BULLETIN

▼ BREVITY—identify by IEN-8481 if you write the maker ▼

## Aluminum Window Manufacturer Standardizes on Alcoa Fasteners

*CITES APPEARANCE, ECONOMY AS MAJOR INFLUENCING FACTORS*

Good looks and low cost of Alcoa Aluminum Fasteners, as well as production advantages, are cited by the J. S. Thorn Company of Philadelphia, Penna., as their reasons for choosing Alcoa Fasteners. Says Mr. J. Allman of that company:

"We've been using Alcoa Aluminum Screws and Rivets in our aluminum casements and double-hung windows for years. Mainly because of their excellent appearance and corrosion resistance but also because they're so much lower in cost than any other corrosion-resistant fasteners we could use. Our experience with them has been most satisfactory. They handle well with our clutch-type air drivers, and make good, secure joints."

Thorn Company's double-hung window (above) uses following types of Alcoa Fasteners: 1, 2, 3, 4: Round Head, Type "A", Sheet Metal Screws; 5: Flat Head Type "A" Sheet Metal Screws; 6: Pan Head Machine Screws; 7 (at all corners): Brazier Head Rivets.

Clutch type air drivers (left) are used to drive threaded fasteners quickly and economically. Fastener costs are lower than for any other corrosion-resistant metals.

WRITE FOR SAMPLES of Alcoa Aluminum Fasteners in the types and sizes you're interested in. See for yourself how these low-cost corrosion-resistant fasteners dress up your product. Just write ALUMINUM COMPANY OF AMERICA, [illegible] Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA

THE LOWEST-COST CORROSION-RESISTANT FASTENERS ARE

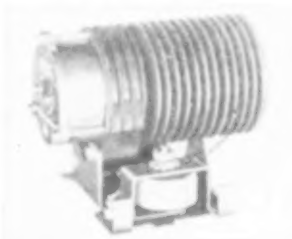
# ALCOA *Aluminum* FASTENERS

INGOT • SHEET & PLATE • SHAPES, ROLLED & EXTRUDED • WIRE • ROD • BAR • TUBING • PIPE • SAND, DIE & PERMANENT MOLD CASTINGS • FORGINGS • IMPACT EXTRUSIONS • ELECTRICAL CONDUCTORS • SCREW MACHINE PRODUCTS • FABRICATED PRODUCTS • FASTENERS • FOIL • ALUMINUM PIGMENTS • MAGNESIUM PRODUCTS

▼ BREVITY—identify by IEN-8484 if you write the maker ▼

## CONTROL . . Voltage regulator holds 30 volts on 100 to 400 amp. dc.

Source: WESTINGHOUSE ELECTRIC CORP.
P. O. Box 2099-A, Pittsburgh 30, Pa.



**Constant voltage** [illegible]

**Accompanying change** [illegible]

**Rating is 90 watts.** [illegible]

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 39*

▼ BREVITY—identify by IEN-8487 if you write the maker ▼

## Wire Forms Finished TO YOUR SPECIFICATIONS

● Now, Sommer is equipped to handle your wire forms—in a wide variety of attractive finishes.

We have installed fast, automatic nickel plating equipment for either large or small assemblies. Also, if you want cadmium or zinc plating, bonderized enamel, parkerized or copper coated finishes—you can count on Sommer.

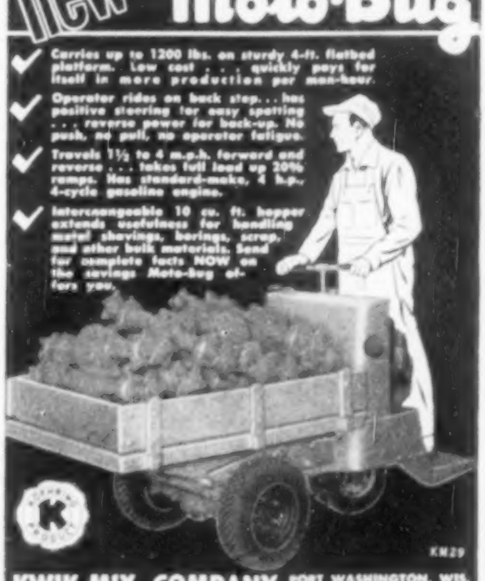
Complete forming, stamping, cut-threading and butt-welding of light metal parts are also among our services. Whatever your problem, you can save time and money if Sommer handles the *complete* job. Just send sample, blueprint or drawing.

**SOMMER METALCRAFT CORPORATION**
(Formerly JESCHKE Wire and Specialty Company)
300 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▼ BREVITY—identify by IEN-8485 if you write the maker ▼

# new Moto-Bug

- Carries up to 1200 lbs. on sturdy 4-ft. flatbed platform. Low cost . . . quickly pays for itself in more production per man-hour.
- Operator rides on back step . . . has positive steering for easy spotting . . . reverse power for back-up. No push, no pull, no operator fatigue.
- Travels 1½ to 4 m.p.h. forward and reverse . . . takes full load up 20% ramps. Has standard-make, 4 h.p., 4-cycle gasoline engine.
- Interchangeable 10 cu. ft. hopper extends usefulness for handling metal shavings, borings, scrap, and other bulk materials. Send for complete facts NOW on the savings Moto-bug offers you.




**KWIK-MIX COMPANY** PORT WASHINGTON, WIS. (Koehring Subsidiary)
Also Mfrs. of: CONCRETE • PLASTER • BITUMINOUS MIXERS

▼ BREVITY—identify by IEN-8488 if you write the maker ▼

## *Specify* KLIXON® PROTECTORS on Your Motor Purchase Orders

*Positive Motor Protection*

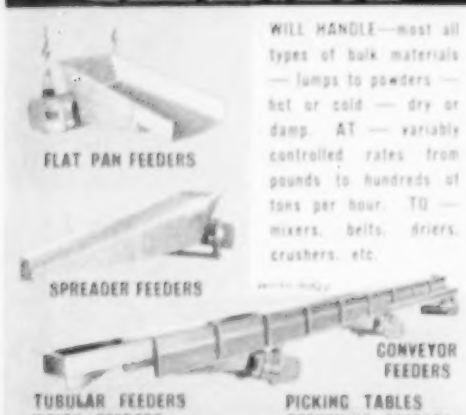
[illegible]

**KLIXON**

SPENCER THERMOSTAT 209 FOREST STREET, ATTLEBORO, MASS.
Division of Metals & Controls Corporation

BREFITT—Identify by IEN-8489 if you write the maker

# SYNTRON
"Vibra-Flow"
## VIBRATORY FEEDERS
With Rheostat Control of Rate of Flow



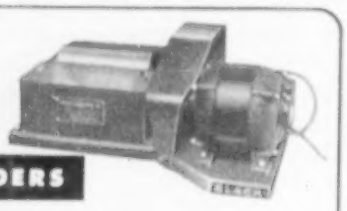

WILL HANDLE—most all types of bulk materials — lumps to powders — hot or cold — dry or damp. AT — variably controlled rates from pounds to hundreds of tons per hour. TO — mixers, belts, driers, crushers, etc.

TUBULAR FEEDERS
WEIGH FEEDERS
DRIER FEEDERS
FURNACE FEEDERS
PICKING TABLES
SCREENING FEEDERS
GRIZZLY FEEDERS
ELEVATOR FEEDERS

**SYNTRON CO.**
410 Lexington Ave. Homer City, Pa.

BREFITT—Identify by IEN-8490 if you write the maker

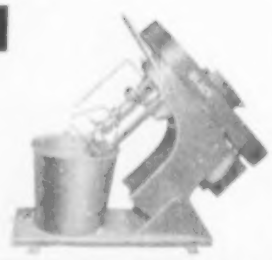
# B&B PORTABLE...MOTOR DRIVEN



**SPREADERS**

Made for all kinds of adhesives — hot or cold. Applies an even, economical coat. 115 volt AC motor. Floor stand with casters available if desired. Write for Bulletin 11-A.

**MIXERS**

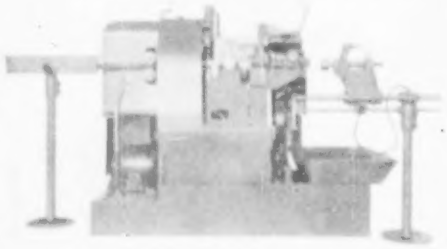


Made in 5, 7½ and 15 cu. ft. capacities. Provides added mechanical mixing action. Arm breaks in discharge door on the side. Floor stand with casters available if desired. Write for Bulletin 11-A.

**THE BLACK BROTHERS CO., INC.**
MENDOTA, ILLINOIS, U. S. A.

BREFITT—Identify by IEN-8491 if you write the maker

## MODERN CUTTING-OFF MACHINE



Cuts off longer pieces than regular automatic machines, any length you want. FAST cutting and chamfering of tubing, pipe, shafting. Check the following figures:

½" Tubing — 1½" Cold Rolled — 1" Tubing

4" THREADED STUDS

WRITE for CATALOG

**MODERN MACHINE TOOL CO.**
JACKSON MICHIGAN

BREFITT—Identify by IEN-8492 if you write the maker

## PROJECTING . . Microfilm reader to view 16 or 35-mm. microfilm records

Source: EASTMAN KODAK CO.
341-5 State St., Rochester 4, N. Y.

List price is $300 for this new model 40-B desk top reader. It is assembled in a gray-finished resin housing that shields the 20-in. rolling screen on three sides. The screen is frosted and matte finish to diffuse illumination and minimize glare. The assembly measures 2 by 2 by 3 feet. It weighs about 30 pounds.

The optical equipment includes a 500-watt prefocus lamp, a Kodak projection Lumenized lens set at f/4.5. The two optical flats that hold the image in sharp focus while the film is moving or standing. They rotate also as the film moves to clear dust from the film. Magnification is 19 to 1. A scanning device permits moving the film manually. Winding is by a hand crank on the hinging side. Rewind assembly of the geneva head permits turning an image upright on the screen even if inverted on the film.

BREFITT—Identify by IEN-8493 if you write the maker

## TUBE . . Seamless steel, hot finished or cold drawn types

Source: BABCOCK & WILCOX CO.
85 Liberty St., Room 1011, New York 6, N. Y.

Previous maximum was 8⅞ inches

The company announces modification to certain parts of its tube-making equipment through which it now is able to supply seamless hot-finished tubes to 9⅝ in. in outside diameter and cold-drawn tubes to 5½ inches.

BREFITT—Identify by IEN-8494 if you write the maker

## GAGE . . Dial indicator design to check depth of holes, depressions

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.

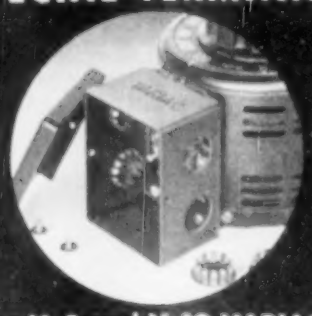
No. 613 is a new dial indicator depth gage fitted, as shown in the illustration with one of the company's No. 25-B indicators which reads to .025 in. on both sides of zero with intermediate marked divisions at .5x.0 thousandths. The indicator is mounted in a knife-edge base measuring 2½ in. in length. It is equipped with a needle-pointed spindle to enter small openings for measurement.

A direct depth reading can be made to .025 in. by pressing on a button at the top of the housing to bring the needle point down. Plus or minus can be read also depending on the initial setting at zero for surfaces in line with the knife-edge or below it within gage range.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10*

BREFITT—Identify by IEN-8495 if you write the maker

# SPECIAL TERMINALS



## for V-5 and V-10 VARIACS*

VARIAC users have frequently asked for special terminal boxes for facilities impossible to fit into the space provided by the standard "T" terminal box regularly used on the V-3MT, V-5HMT, V-10MT and V-10HMT VARIACS.

We now stock a new, larger rectangular box with sufficient room for almost any special terminal arrangement desired. The new box has a removable cover for easy access to its interior.

Two boxes are available. The "TC" unit (illustrated) a plain box with four BX or conduit knockouts and a blank cover, and the "TE" box equipped with 3-wire outlet, line cord and 3-wire plug and two-pole switch. The boxes for the V-5 and V-10 VARIACS are identical and can be readily installed by the user.

*Trade Name • WRITE FOR COMPLETE DATA

**GENERAL RADIO CO.**
Cambridge 39, Massachusetts
NEW YORK CHICAGO LOS ANGELES

BREFITT—Identify by IEN-8496 if you write the maker

# CAN CENTRIFUGING HELP YOU?

You'd be surprised at some of the things centrifuging is doing these days . . . because modern centrifuging is versatile.

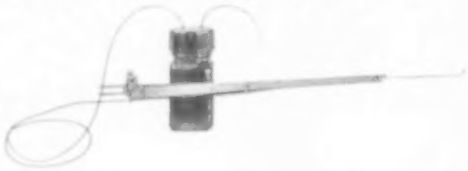
The centrifugal pictured above, for example, is the biggest ever made. It's used for impregnating and drying heavy textiles . . . and does the job more efficiently than any other method. Every day, more processing engineers and production men are discovering that separation, extraction, dehydration, sterilization, filtration and other processes can frequently be done more efficiently and economically by centrifuging.

We'll gladly tell you whether centrifuging can help you. Just send us a sample of your material for confidential analysis. There's no cost or obligation. AMERICAN TOOL AND MACHINE COMPANY, 1417 Hyde Park Ave., Boston 36, Massachusetts.

TAKE TIME, EFFORT AND COSTS WITH
**A.T. and M.**
CENTRIFUGING

BREFITT—Identify by IEN-8497 if you write the maker

## ARCCO NEVER-DRY PEN
*Writes for Months*



REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of gravitation or other causes of ink failure this new Never-Dry Pen with nickel chrome and complete reliable ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

Weight of pen is constant at all times thus insuring extreme accuracy. No skipping or dropping. Stainless steel construction no corrosion. When ordering, specify make and type of recording instrument.

**AMERICAN RECORDING CHART CO.**
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

BREFITT—Identify by IEN-8498 if you write the maker

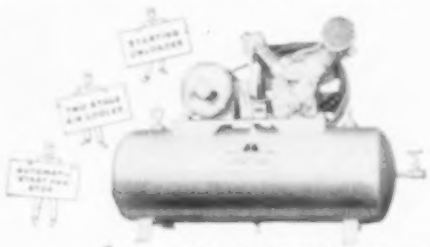
**ACROMARK**

MAKERS OF—
STAMPS
•
NAME-PLATE STAMPING MACHINES
•
NUMBERING MACHINES
•
MARKING MACHINES
•
WRITE FOR LATEST LITERATURE & PRICES

WE WILL MARK YOUR PRODUCTS

ACROMARK
MORRELL ST., ELIZABETH, N. J.

▼ BRIEFITS—Identify by IEN-8499 if you write the maker ▼



## A PARADE OF ADVANTAGES

Westinghouse Air Brake Co.

"Y" COMPRESSORS

All modern features . . . PLUS these vital Points of Protection

Compressors are used in modern refrigeration or gases. Friction from rotating or moving "contacts" oil to working parts. Equipped with the "Y" Compressor oil not just lining and cylinder lubrication is maintained . . . only oil is lost in air or gases leaving. Another "Y" exclusive feature.

Automatic switch cuts power if motor overheats—standard equipment on the "Y".

7.4 to 41.5 CFM displacements . . . 1½ to 10 HP. Ask for Bulletin IDC 9302-3.

**Westinghouse Air Brake Co.**

Industrial Division, Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

▼ BRIEFITS—Identify by IEN-8500 if you write the maker ▼

# "BEEF-UP"

## your molded parts with

# DUREZ 1544

**This general-purpose material has extra impact strength**

● No dilemma faces designers or molders when a job calls for more than average impact strength, yet does not justify the cost of a special-purpose phenolic. In the catalog of Durez molding compounds there is one that fits this situation exactly—Durez 1544. This general-purpose type material has an impact of 0.34 I.P. per inch, fully 30% higher than standard general-purpose phenolic. It has good molding and electrical properties, can be preformed in automatic equipment, and comes from the mold with a fine lustrous finish.

Among many applications using Durez 1544 is this 8-blade air speed indicator rotor, on which fast production is maintained in a top-notch plunger press. The blades have adequate strength despite their thin section. Flash removal is the only molding necessary. Dimensional stability assures accurate assembly, fit and dynamic balance of the rotor.

SEND FOR DATA—[illegible] Durez Plastics & Chemicals, Inc., 1[illegible] Walck Road, North Tonawanda, New York.

DUREZ

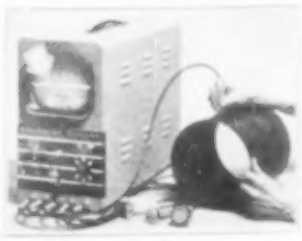
*Phenolic Plastics that fit the job*

PHENOLIC RESINS
- MOLDING COMPOUNDS
- INDUSTRIAL RESINS
- PROTECTIVE COATING RESINS

▼ BRIEFITS—Identify by IEN-8502 if you write the maker ▼

## GAGE . . Electronic, reads thickness on access to metal from one side only

Source: MAGNAFLUX CORP.
5914 Northwest Highway, Chicago 31, Ill.



**New design** in the company's Sonisteel ultrasonic equipment to measure metal thickness and other permits internal defects provides a direct reading in an overall range from [illegible] to [illegible] inch. It can be engineered for precise thickness to 4 in. where two readings are taken and a formula applied. The reading appears as a "bip" on a horizontal trace on a cathode-ray screen, precisely on an oscilloscope screen. Separate probes are available for each different material of specific speed of sound transmission. Test disc are available for intermediate frequency ranges such as 1[illegible] to 1[illegible] kc., [illegible] to [illegible] kc. and higher in the overall range.

**Operation** is from a 1[illegible]-watt [illegible] to supply a high-frequency impulse to a crystal probe. This probe is placed against the work, on a light film of oil for good transmission, and acts to change the high-frequency impulses into sound waves. These waves travel through the work and are reflected back upon striking air on the opposite face or an internal defect and. Receipt of the reflected waves by the probe causes the pip to appear on the trace at the point representing material thickness. Five crystals connect to the instrument and are used interchangeably depending on requirements. Accuracy is within 1 per cent of full scale.

▼ BRIEFITS—Identify by IEN-8503 if you write the maker ▼

## CUTTING . . Abrasive disc machine for wet or dry operation, to 1 in. bar

Source: ANDREW C. CAMPBELL DIV.
927-31 Connecticut Ave., Bridgeport 2, Conn.

**Model 15** is currently incorporated design in the company's line of abrasive-disc machines. It mounts a 12 or 14-in. disc with belt connection to a 2 or 5-hp. motor in the pivoted head. A ½-hp. motor circulates coolant to a distributor acting on both disc faces. Work is held on the two sides of the disc by a foot-operated fixture that can be set square or turned to a maximum 45-deg. angle.

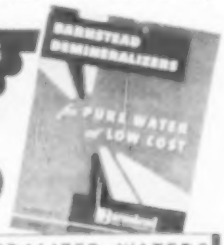
**The machine** will take ⅝-in. steel bar stock or 1½-in. tubing with the 2-hp. assembly. Capacity is 1-in. bar stock and 2-in. tubing on 5-hp. rating. Motor operation is at 3,600 rpm. in either case. The disc rides at 2,500 rpm. for wet cutting, 1,800 rpm. with diameter load at 12 in. for dry operation. Overall machine dimensions are 28 by 54 by 50 inches.

**List price** for wet operation is $590 arranged to take a 2-hp. motor, $690 for the 5-hp. size, both without electrical equipment. Detail information in 4-page Bulletin DH-102.

*All Makers of These and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings. See Page 50*

▼ BRIEFITS—Identify by IEN-8504 if you write the maker ▼

## THIS CATALOG GIVES THE ANSWERS




DISTILLED WATER?

DEMINERALIZED WATER?

In hundreds of manufacturing processes where pure water is needed, Barnstead Stills provide the high quality, bacteria-free, chemically pure, distilled water from 15 to 1000 gallons per hour. With over 100 different models to choose from, Barnstead can provide the water will be the most particular needs. For Barnstead Laboratory and Industrial stills are the proven standard of the scientific and industrial world.

We have manufacturing processes supply fully high-quality demineralized water. Barnstead Demineralizers are the best produced. To per 1000 gallons, with a minimum of maintenance and maintenance. Many new industries are turning to Barnstead Demineralized Water for process, power reports, and better quality control.

**FREE**

Catalog 2175 gives both sides of the Pure Water Picture. Since Barnstead makes both stills and demineralizers, you'll find this catalog complete, earlier, surely, unbiased. Write Today!

**Barnstead** STILL & STERILIZER CO.

*First in Pure Water since 1878*

50 Lanesville Terrace, Forest Hills, Boston 31, Mass.

▼ BRIEFITS—Identify by IEN-8505 if you write the maker ▼

*a Fluid Power Engineers Production*

## "LOGAN" AIR CONTROL VALVES

*Check these Features!*

- BALANCED PISTON DESIGN
- MINIMUM DOWN TIME
- SELF-CLEANING
- COMPACT DESIGN
- EASILY INSTALLED

79 MODELS

MOST MODELS STOCK DELIVERY

• • •

ENGINEERING COUNSEL

**Logan** *Air and Hydraulic Equipment*

SAVES

LOGANSPORT MACHINE CO., INC.

FREE CATALOG

FLUID POWER SPECIALISTS SINCE 1916

▼ BRIEFITS—Identify by IEN-8506 if you write the maker ▼

## NOW . . . AMERICAN SCREW CO.

*Steps Up National Distribution*

. . . as production steps up in NEW WILLIMANTIC PLANT

New plant at Willimantic, Conn. one of the most modern operations in the screw industry.

American pipelines are being pumped full of ample supplies of all types of Phillips and slotted fasteners. Industrial supply distributors and hardware jobbers everywhere are set to serve you now.

For America's new high-production plant in Willimantic is geared up to meet all demands promptly and efficiently. And the production is augmented by the American plant at Norristown while distribution is kept on a "delivery-now" basis by warehouse stocks in Norristown and Chicago.

AMERICAN SCREW COMPANY
Plants at Willimantic, Conn. and Norristown, Pa.

Phillips — AMERICAN SCREWS — Slotted

▼ BRIEFITS—Identify by IEN-8507 if you write the maker ▼

*DIRECT—*

# TWO-WAY ACTION

## . . . with the NEW Hein-Werner "Push and Pull" Hydraulic Jack

- Pump operates at any angle . . . and in any position.
- Easier to set up, and requires fewer attachments.
- Protected by safety valves. Cannot be overloaded.
- Cannot become airbound at any angle or in any position.
- Available in 4, 10 and 20-ton capacities, with a wide variety of attachments for hundreds of industrial applications.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORP.
*Waukesha, Wis.*

FREE LIT—Identify by IEN-8508 if you write the maker

FREE LIT—Identify by IEN-8509 if you write the maker

FREE LIT—Identify by IEN-8510 if you write the maker

S.S.WHITE Elastoplastic
PLUGS and CAPS

Supposed you to use the end of plastic tubing, these plugs and caps protect the ends and keep out dirt and moisture.

Made of flexible vinyl-type material, they are used first to mold over other high-strength thermoplastic and are simply stretched and slipped on. Are durable.

WRITE FOR BULLETIN P-4704.

S.S.WHITE PLASTICS DIVISION
THE S. S. WHITE DENTAL MFG. CO.
DEPT. 10 EAST 40th ST., NEW YORK 16, N. Y.
FLEXIBLE SHAFTS AND ACCESSORIES
MOLDED PLASTICS PRODUCTS • MOLDED RESISTORS

FREE LIT—Identify by IEN-8511 if you write the maker

## VALVE . . Four way operating unit for air to 150 lb., liquid to 1,000 lb.

Source: BARKSDALE VALVES
4901-7 Santa Fe Ave., Los Angeles 58, Calif.

Connection sizes are ¼ to ½ in. in this new Arlite valve in which a central rotating member carrying five passages is interconnected by four connecting parts at 90-degrees. Each of these parts carries a spring-loaded sleeve that bears against the rotating member to assure action against leakage.

The sleeves are made of a non-metallic material that will be sealed in a good service in handling air or liquid. The valve can be opened for full flow or employed in throttling service without setting between the pressure.

FREE LIT—Identify by IEN-8512 if you write the maker

## HEAT TREATING . . Quenching oil for carbon steels, can replace water

Source: RODMAN CHEMICAL CO.
328-32 Plum St., Verona, Pa.

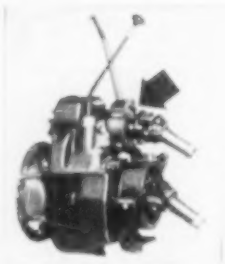
Company will treat sample work piece

Type R-2 is a new quenching oil developed for the complete line of characteristics for the ability to harden carbon steels in accordance for a good steel, more uniformity, improving results, or making that possible. [illegible] the treatment will start a film in the immediate part of the quench to prevent the surface and cracking. Tensile characteristics are presented in a new 12-page booklet, "R-2 Quenching Oil." Packaging is in 55-gal. returnable drums and tank cars.

FREE LIT—Identify by IEN-8513 if you write the maker

## DRIVE . . Power takeoff mounts on engine transmission top plate

Source: MOBILE-POWER INC.
704 Porter St., Lansing 6, Mich.



Tangent Drive mounts this power takeoff fully assembled on the top of a truck transmission housing and provides a second drive parallel to the truck's main drive with a shift arm for engagement or release. The new unit takes its power from the main gear of the transmission, can be employed to transmit 18 per cent of the power available from the truck engine. It is available for specified trucks.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 90

FREE LIT—Identify by IEN-8514 if you write the maker

USE STAINLESS STEEL
FLOATS

YOU can solve virtually all your float problems by standardizing on Stainless Steel Floats from Chicago Float Works. You get longer service and less maintenance because Stainless Steel Floats resist corrosion and withstand high temperatures and pressures. Extreme strength insures them against collapsing and they always respond perfectly to level fluctuations because of permanently high buoyancy. Install our high quality Stainless Steel Floats and be sure of long, trouble-free operation.

WRITE FOR FREE CATALOG

This illustrated catalog gives complete details on sizes, shapes, spud connections, and engineering data on Chicago's complete line of standard or special floats.

CHICAGO FLOAT WORKS, INC.
2326 S. Western Ave., Chicago 8, Illinois

FREE LIT—Identify by IEN-8515 if you write the maker

## How to cut corners, cut costs, hold quality

OAKITE specialized industrial cleaning materials, methods, service, can make an impact on production, operating costs, "bottle-neck" jobs and maintenance.

1. Pre-Paint Treatment Saves $800 Monthly
2. New Brass Cleaner Makes Big Savings

FREE Oakite Products, Inc., 19A Thames St., New York 6, N. Y. Let the new 32-page booklet "Some good things to know about Metal Cleaning" help you.

| | | |
|---|---|---|
| Machine cleaning | Tank cleaning | Electrocleaning |
| Pre-paint treatment | Pickling | Paint stripping |
| Steam-gun cleaning | Burnishing | Rust prevention |

Technical Service Representatives in Principal Cities of U.S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

FREE LIT—Identify by IEN-8516 if you write the maker

Extremely sensitive
PRESSURE & VACUUM
Switches

The new Type SB pressure and vacuum switches are for use in applications in which close on-off differentials and absolutely consistent maintenance of make and break settings are essential in the control of pressure or vacuum. Available are two pressure models and two vacuum models. The Pressure Switches have adjustable ranges from 0-15 psi and adjustable on-off differential from .1" to 10" wc. They may be furnished as calibrated, manometer type or equipped for screw driver adjustment.

Electrical ratings of 125-250 V AC between 1200 watts and pilot duty depending on differential. The Vacuum Switches offer adjustable ranges from 22"-0" hg vac with adjustable on-off differential from .1" to 10" wc. Furnished as calibrated manometer type or equipped with screw driver adjustment. Electrical ratings of both models 1200 watts at 125-250 V AC.

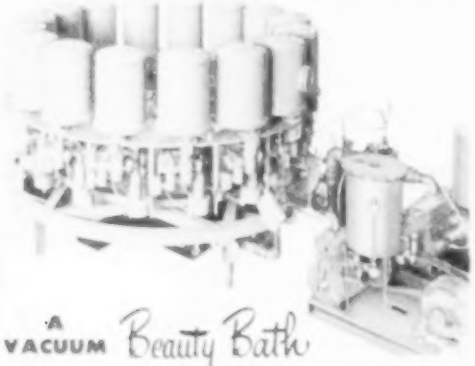
Special models available for requirements not included in the specifications above.

Write for new bulletin 4926 P giving complete details today.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street
Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

FREE LIT—Identify by IEN-8517 if you write the maker



A VACUUM Beauty Bath

Kinney Vacuum Pumps work here, too! This permanent vacuum dehydrating machine developed by Distillation Products Industries, employs a Pyrex and Kinney Rotary Vacuum Pumps to create the low pressure required. The pharmaceutical coating produced is quite a beauty treatment for some of these.

Because of their high pumping speed, long life and low ultimate pressure required, Kinney Vacuum Pumps are ideal for all types of vacuum processing work—distillation, dehydrating, coating, and metallurgy. Write for Bulletin V-45. Kinney Manufacturing Company, 3564 Washington St., Boston 30, Mass.

Making old things better • Making new things possible

KINNEY VACUUM PUMPS

▼ DIRECT—Identify by IEN-8518 if you write the maker ▼

WHEN you bend pipe or repair jobs, replace heat or original installations, you save up to 80% of costly fittings. Work goes far faster . . . and at a far lower cost. Any great hand you do it — that's why hundreds are in use.

Tal tube benders handle all hard copper tubing without annealing. Also K and L tubing — in diameters from ⅛" to 1". Perfect, flawless bends guaranteed.

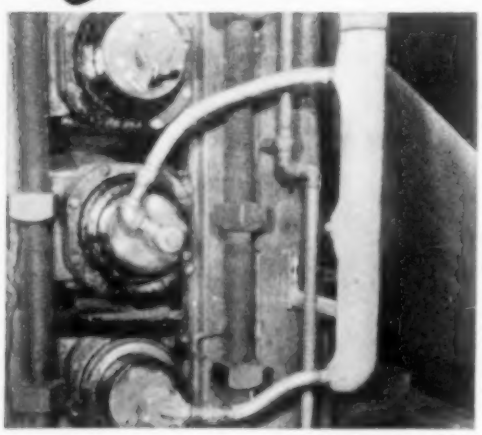
Write for informative data bulletin. Dept. 2.

**Exclusive Producers of Portable Pipe and Tube Bending Equipment**

**Tal Bender, Inc. Milwaukee 2, Wisconsin**

▼ DIRECT—Identify by IEN-8519 if you write the maker ▼

# Another Problem SOLVED—



COURTESY CONTINENTAL PAPER COMPANY

▸ VIBRATION ▸ TORSION ▸ TEMPERATURE

## with Bendix Eclipse Flexible Metal Hose

In this paper machine Bendix Flexible Metal Hose* carries steam at approximately 22 psi to the steam head of a calender. Since the main steam pipe carries considerable vibration and the steam head rotates about an eccentric center, tubing must withstand a constant spiral flexing motion. The deep parallel corrugations, uniform wall thickness and seamless construction of Bendix Metal Hose —assuring greater flexibility and longer service life —make it the perfect answer for problems of this type. Perhaps you have a similar problem. Write today and let our engineers help you solve it.

*Engineered to your requirements in 85-15 bronze, SAE 1010 carbon steel, stainless steel, Monel, beryllium copper, cupro nickel and other special alloys.*

LOOK FOR THE ✓ MARK OF QUALITY

**ECLIPSE-PIONEER DIVISION**
**BENDIX AVIATION CORPORATION**
TETERBORO, NEW JERSEY

Canadian Representative: The Holden Co., Ltd., 694 St. James Street, West Montreal 3, Canada
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, New York

▼ DIRECT—Identify by IEN-8521 if you write the maker ▼

## TRUCK . . Four attachments are interchangeable on company's truck

Source: KWIK-MIX CO.
49 Kochring St., Port Washington, Wis.

**New applications** for the company's Wyle-Dog truck are now possible with the addition of three new attachments to the original dump-body design as shown in the upper left in the illustration. The frame consists of a rectangular plate with non-operated steering mechanism, a hand-operated hydraulic lift and a flat pressed wood platform.

**The original truck** is driven by a Wisconsin gasoline powered engine rating 4 hp. Speed is controlled from a minimum of 1½ to 4 mph. Drive is to the front axle driving on all the time. Load capacity for the 19 cu. ft. dump body is 1,200 pounds. The truck will carry the full load up a 20 per cent grade.

**The plow blade** measures 5 ft. 10 in. length. It can be set square or at an angle on either side. It operates with the dump body in place to permit moving of the machine in emergent. This arrangement also can operate other power driven attachments. The fork lift raises 500 lb. and will come 4 inch to be driven into position. The operator maintains control of moving machine the hand-lift unit.

▼ DIRECT—Identify by IEN-8522 if you write the maker ▼

## SOLDERING . . Plier type equipment for tubing, electric connectors, seams

Source: IDEAL INDUSTRIES INC.
1108 Park Ave., Sycamore, Ill.

**Standard** design uses two Lineman pliers, as the one pictured. The ThermoGrip type of soldering equipment is when the work completes a resistance heating circuit through a transformer when it is gripped by the pliers type head. There is also a hot solder tool consisting of two flat electrodes to which are connected leads and a pencil attachment with one flat electrode for spot soldering and light seam work.

**Operation** is on 110-volt, 60-cycle a.c. to the transformer which supplies the required low voltage for the heating circuit. The pliers head will heat a 1/16 copper tube to soldering temperature in one minute. It will take copper tube to 1½ in. long. Lines measuring 6 at 12 ft. can be operated.

All Makes of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

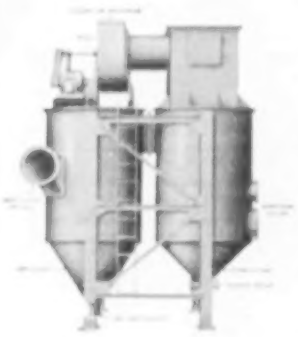
▼ DIRECT—Identify by IEN-8523 if you write the maker ▼

▼ DIRECT—Identify by IEN-8524 if you write the maker ▼

▼ DIRECT—Identify by IEN-8525 if you write the maker ▼

▼ DIRECT—Identify by IEN-8526 if you write the maker ▼

## Reclaim Valuable Dusts with the Wet-Dry Type Hydro-Clone



This is a twin unit that recovers valuable materials dry, and suppresses the fines with water, in closing them to sludge. It handles heavier loads than other filters, or approving devices, including high temperature dusts that would burn out cloth screen collectors.

The Whiting Hydro-Clone has no moving parts . . . no spray nozzles to clog . . . no cloth bags, or screens to replace. Available in capacities from 2,000 to 50,000 cfm. Write for Bulletin FY-17 for full information.

**WHITING CORPORATION**
15629 Lathrop Ave.
Harvey, Illinois

FREE
New booklet of Practical information on Dust Collection. Ask for Bulletin FY-142

BREVITY—Identify by IEN - 8527 if you write the maker

The NEW McGILL GUIDEROL roller bearing

The Bearing with the Self-Aligning Rollers—a simplified roller bearing construction that automatically corrects roller skewing — without space-wasting cages! Perfect roller alignment with resulting superior performance is maintained by this new principle of guided rollers. Even with reduced internal radial looseness a GUIDEROL bearing overcomes any tendency to bind under limited misalignment. Produced in needle and cylindrical type roller bearings.

Write for your copy of the new GUIDEROL Bearing Bulletin No. GR-50. Address: McGill Manufacturing Co., Inc., Bearing Division, 500 N. Laporte St., Valparaiso, Indiana.

McGILL precision bearings

BREVITY—Identify by IEN - 8528 if you write the maker

NOW! Save 90% on INERT GAS Costs!

READ HOW KEMP INERT GAS PRODUCERS SAVE $9 OF THE $10 YOU SPEND FOR INERT GAS NOW!

Stop paying premium prices for inert gas! Whether you use bottled inerts . . . or produce them with old-fashioned, fuel-gobbling equipment . . . you'll be *money ahead* with Kemp. With a Kemp *Inert Gas* Generator the cost of inerts tumbles 83% to 90% . . . and gives you added savings in time, labor and overhead.

ABSOLUTELY DEPENDABLE

Kemp Generators burn ordinary gas just as it comes from the mains. A famous Kemp Carburetor, part of each installation, assures *complete combustion* . . . producing a clean, chemically inert gas containing 88% nitrogen, 12% $CO_2$ . . . a gas so pure it is used *without further processing* in the manufacture of aspirin and *laboratory chemicals*, fine paints and a host of other products.

SEND FOR PROOF!

Whether you need inerts for purging, fire protection, mixing, blanketing or a special application . . . specify Kemp. For technical information write for special bulletin. *To find out how much you can save*, tell us what you spend for inerts now. Then let us show you how much Kemp saves you per mcf. Mail coupon today!

KEMP OF BALTIMORE INERT GAS GENERATORS

CARBURETORS
BURNERS
FIRE CHECKS
ATMOSPHERE & INERT GAS GENERATORS
ADSORPTIVE DRYERS
METAL MELTING UNITS
SINGEING EQUIPMENT
SPECIAL EQUIPMENT

The C. M. Kemp Mfg. Co., Dept. A-8, 405 E. Oliver St., Baltimore 2, Md.

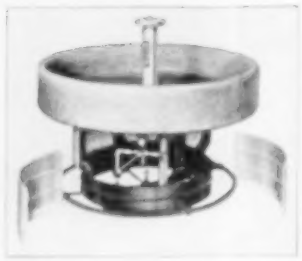
Gentlemen: Send me information. Also show me how much we can save on inerts. We now spend . . . per mcf for inerts used in . . . (process.)

Name
Company
Address
City Zone State

BREVITY—Identify by IEN - 8530 if you write the maker

## WASH ROOMS . . Circular fountain, marble or stone body, metal pedestal

Source: BRADLEY WASHFOUNTAIN CO.
2219 W. Michigan St., Milwaukee 1, Wis.



New assembly of the company's precast marble and stone washfountains includes the metal pedestal, previously developed for the enameled iron and stainless steel fountains. Each pedestal consists of two upper frame members, four pedestal legs and four removable pedestal panels. The panels are finished in baked enamel to match the marble or stone bowls and are available in tan, green, white. The lower scuff base is black. The metal pedestal assists in installation, adds a decorative note to the fountain.

BREVITY—Identify by IEN - 8531 if you write the maker

## POLISHING . . Tumbling barrel presents abrasion resistant surfaces

Source: LUPOMATIC INDUSTRIES
4508-12 Ballard Ave., New York 66, N. Y.

Barrel lining resists wear

Tumb-I-Dur trade names new construction material developed by the company for manufacture of certain units in its line of tumbling barrels and to line other barrels in place of wood. A test installation in which wood lasted for 4 weeks has been in operation for 18 months without signs of wear. The material can be used wet or dry. It will not warp when wet. It can be sawed and drilled. The company is prepared to supply it in barrel construction to specification.

BREVITY—Identify by IEN - 8532 if you write the maker

## TESTING . . Ultraviolet instrument to examine structures for defects

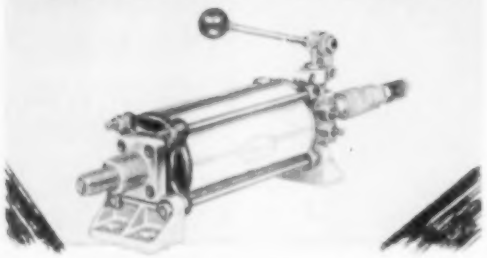
Source: MENLO RESEARCH LABORATORY
Box 522-A, Menlo Park, Calif.

Dark chamber is made available by a rubber sealed housing in this new instrument. It can be positioned over a suspected area in a structure for application of ultraviolet light to uncover any physical defects. The light is supplied by two Size D flashlight batteries and a generator attached by a swivel to the handle containing the power components. A focusing eyepiece provides 3X magnification. Glass-quartz filter heads operate at 2537 or 3660 Angstrom units.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 8533 if you write the maker

## AN AIR CYLINDER WITH ALL CONTROLS BUILT-IN



This revolutionary air cylinder is a complete power unit in itself. Four way directional valve, with an operating lever adjustable to work from any angle or any plane, and separate speed controls for advance and retract strokes, are integral with the cylinder itself. This compact "controlled air-power" unit requires only one air connection which can be flexible hose. Available in 1¼", 1½", 1¾" and 2½" bores. Any stroke length.

Known as the Bellows Air Motor, this modern version of air cylinder power makes air safer, easier and simpler to use. Helps in a hundred ways to get more production at lower cost.

"Write today for your free copy of the new 16-page Bulletin 'Putting Controlled-Air-Power to Work.' Address The Bellows Co., Dept. IEN 950, 222 W. Market St., Akron 9, Ohio.

The Bellows Co.
Akron 10, Ohio

BREVITY—Identify by IEN - 8534 if you write the maker

## All plant managers should know these facts about pressure-treated lumber

FIRST — PROTECTION . . Treating of lumber preserves it—just as clothes preserve people. The purpose is to protect lumber against costly rot and termite damage, and to protect your plant investment.

SECOND — PRESSURE TREATMENT Vs. SURFACE APPLICATION . Authorities say that pressure treating for exterior surface application because it penetrates deep into the fibers of the wood.

THIRD — OTHER QUALITIES TO LOOK FOR . For greatest usefulness, preservatives used in treating lumber also should be clean, odorless, paintable, non-leaching and non-corrosive.

FOURTH — WOLMANIZED Pressure-Treated Lumber combines all these requirements. Lasts 3 to 5 times longer than untreated wood, because it's treated under 150 lbs. pressure per square inch. It's clean, odorless, paintable, non-leaching, non-corrosive.

WOLMANIZED PRESSURE TREATED LUMBER

*For complete facts about WOLMANIZED Pressure-Treated Lumber, write for free booklet.*

AMERICAN LUMBER & TREATING COMPANY

Branch Offices: General Offices: 1540 McCormick Bldg., Chicago 4, Illinois
Baltimore, Boston, Jacksonville, Fla., Little Rock, Ark., Los Angeles, New York, Portland, Ore., San Francisco

BREVITY—Identify by IEN - 8535 if you write the maker

## NO OTHER TESTER *does so much...so well!*

WESTON
*Model 785*
INDUSTRIAL CIRCUIT TESTER

*In the shop* . . . 28 ranges *in one case* to locate power troubles on production equipment.

*On the bench* . . . 28 ranges *in one case* for checking electrical equipment during manufacture.

*In the lab* . . . 28 ranges *in one case* immediately available for research and development work.

28 Instrument Ranges

D-C VOLTS: 100 mv, 1/10/50/200/500/1000 volts (20,000 ohms per volt).
A-C VOLTS: 5/10/30/150/300/750 volts.
D-C CURRENT: 50 microamps, 1/10/100 milliamps, 1/10 amps.
A-C CURRENT: 5/10/5/10 amps.
RESISTANCE: 3000/30,000/300,000 ohms, 1/10 megohms.
Shunt Accessories Available for Extending Above Ranges.

It does so much, so well, for so little. Check your Weston Representative for full details or see your local jobber. Weston Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, New Jersey . . . manufacturers of Weston and Turnbull Instruments.

WESTON *Instruments*

Albany • Atlanta • Boston • Buffalo • Charlotte • Chicago • Cincinnati • Cleveland • Dallas • Denver • Detroit • Houston • Jacksonville • Knoxville • Little Rock • Los Angeles • Minneapolis • Minneapolis • Newark • New Orleans • New York • Orlando • Philadelphia • Phoenix • Pittsburgh • Rochester • San Francisco • Seattle • St. Louis • Syracuse • Tulsa • Washington, D. C. In Canada: Northern Electric Co., Ltd., Powerlite Devices, Ltd.

BREVITY—Identify by IEN - 8537 if you write the maker

## This kitchen floor may SOLVE YOUR FLOORING PROBLEM

One important reason Tile-Tex® Plastic Asbestos Tile was chosen for the above job is because of its exceptional grease resistance.

Chances are you may need this quality in work areas, too . . . where oil and grease from machines and tools mar the floor.

And you may want to combination with other qualities such as ability to withstand heavy traffic with materials handling trucks . . . easy economical maintenance . . . quick installation . . . long service life . . . adaptability to functional or decorative design.

It does so when you want to know why industrial flooring runs cost the better than to specify Tile-Tex. It gives you all these and other qualities that add up to a great deal of floor for your money.

For the complete story on Tile-Tex, and how it can help solve your flooring problems, Write: THE TILE-TEX DIVISION, The Flintkote Company, Dept. I, 1214 McKinley St., Chicago Heights, Ill.

OFFICE AREAS BRIGHTEN UP WITH FLOORS OF TILE-TEX® . . . THE QUALITY ASPHALT TILE

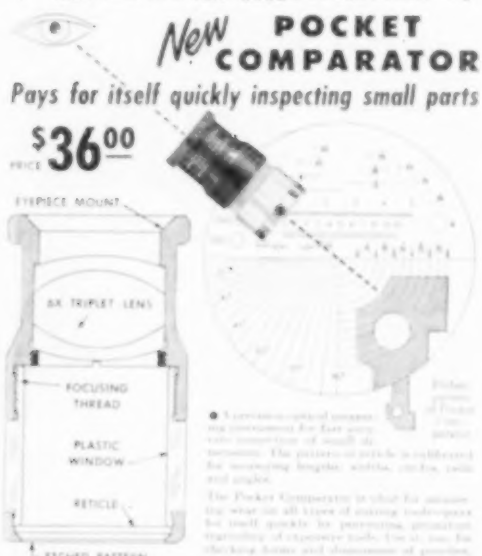
**TILE-TEX** FLOORING PRODUCTS

BREVITY—Identify by IEN - 8538 if you write the maker

## New POCKET COMPARATOR

*Pays for itself quickly inspecting small parts*

PRICE $36.00




● Convenient optical measuring instrument for fast accurate comparison of small dimensions. The patented reticle is calibrated for measuring lengths, widths, radius, radii and angles.

The Pocket Comparator is ideal for anyone who uses all types of mating tools—gages for itself quickly by preventing premature replacing of expensive tools. Use it now for checking frames and clearances of power tools, the upper emplacement as well as radio window chassis, shrouds and small holes in production parts. Order today.

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See Your National Tool Co. Representative or Local Jobber

**NATIONAL TOOL CO.**

11220 Madison Avenue Cleveland 2, Ohio

BREVITY—Identify by IEN - 8539 if you write the maker

## HOLTITE SPECIALS

Very often a Special threaded part, designed for a specific purpose, will replace several parts or fastenings, increase holding power, improve appearance, or effect substantial savings in materials and labor cost.

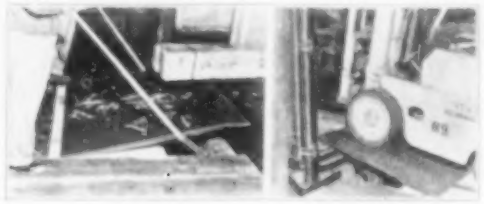
Our equipment and facilities for producing Special parts and fastenings are second to none. Send samples, specifications or blue prints for prompt quotations. Our Engineering Staff will gladly study your assembly for fastening improvements, and make recommendations for the most efficient applications.

**CONTINENTAL SCREW CO.** New Bedford, Mass., U.S.A.

BREVITY—Identify by IEN - 8540 if you write the maker

## FLOORS . . Steel dockboard positions in rack in shipping platform

Source: WM. CHRISTENSEN CO.
402 S. Sherman St., York, Pa.



**Easyload** Transfer Plate is a new dockboard made of reinforced Jal-Tread floorplate and an assembly of links and operating levers. It assumes from a shipping platform can be cracked over as a part of the platform surface. Lifting the levers at the two sides causes the curved lip and moves it forward to bridge between the platform and a truck.

**Four sizes** measure 54 by 40, 50, 60 and 70 inches. Plate thickness is ¼ to ⅜ inch. Reinforcing ribs are 1½ x ½ inch to 2½ by ½ inch. Weight is 240 to 718 pounds. Load capacity is 5,500 to 15,000 pounds. Extension beyond the shipping platform is 20 to 34 in. in the range of available sizes.

BREVITY—Identify by IEN - 8541 if you write the maker

## PLASTIC . . Resin impregnated sheet made of Fiberglas to laminate in mold

Source: FLEXFIRM PRODUCTS
2302 Chico Ave., El Monte 9, Calif.

Ask for Bulletin

Dryply Laminating

**Dryply** Tools comes new sheet material consisting of Fiberglas with dry resin impregnation. The material is available in rolls measuring 38 and 44 in. in width in various unit weights. The sheet applies in a desired number of thicknesses to bag or contact the molding fixtures in curing at 250 to 300 deg. F. This method can be cured in 15 min. or less at the high temperature limit. Prior to forming, the sheet material can be stored at room temperature for periods to six months.

BREVITY—Identify by IEN - 8542 if you write the maker

## CUTTING . . Toggle hand tools for hot and cold bar stock, lath, wire

Source: H. K. PORTER INC.
48-52 Foley St., Somerville 43, Mass.

**Carbide tipped** jaws are employed in the new hand cutter shown in the illustration to cut bar stock including hard metals such as stainless steel. The tool is one of four. It cuts to ⅝ in. in diameter in stainless steel.

**The other tools** include one to cut bar stock to ⅝ in. in diameter in which the jaws are made of hot work steel, a cutter for metal lath with center cut jaws and pointed nose to get into confined locations, and a utility cutter for wire and cable in which the jaws are mounted with Carbide to prevent the wire against marring shock.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 8543 if you write the maker

## RESTORE Battered and Rusted Threads

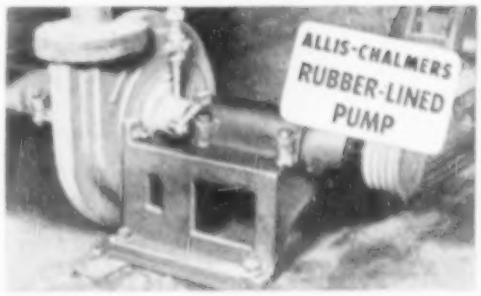
Flats and nicks eliminated—even heavily corroded threads quickly cleaned, so that nuts turn off and on freely! Think of the time and money saved! No more drilling or hack-sawing to remove damaged bolts and studs. Just slip on your Buckingham Thread Cleaner, tighten the jaws, then turn!

Buckingham Thread Cleaners follow the pitch of any thread with root diameter from ¼" to 4". No need to insert or change dies. Cutting jaws adjust easily to proper size on the threads. Jaws should be placed below the damaged area and then turned off through that section. See your nearest Buckingham dealer — or write us today for further information.

| THREE SIZES | Price |
|---|---|
| 6103 — ¼" to 1" root diam. | $ 6.00 |
| 6104 — 1" to 2½" root diam. | 11.00 |
| 6106 — 2" to 4" root diam. | 25.00 |
| 6204 — 1" to 2½" root diam. | 19.00 |

**BUCKINGHAM MANUFACTURING CO., INC.**
49-51 Travis Street Binghamton, N. Y.

BREVITY—Identify by IEN - 8544 if you write the maker




## NEW LONG LIFE PUMP FOR FINE MESH MATERIALS

For many applications — particularly in handling ½" to 325 mesh abrasive materials — this new rubber-lined pump will outlast conventional or special types of metal pumps. Here's the reason: rubber lining offers as much as three times the resistance to abrasion that any harder metal materials offer. Available in a wide range of sizes to fit almost every need.

Ask your nearest A-C Sales Office for your copy of New Bulletin 08B7511 today.

ALLIS-CHALMERS, 909A SO. 70 ST. MILWAUKEE, WIS.

A-C

**ALLIS-CHALMERS**

BREVITY—Identify by IEN - 8545 if you write the maker

## STORE and HANDLE DIES *This Easy Way*

A vexing die storage and handling problem was solved by a shelf arrangement, illustrated, and use of a simple hand-propelled crane with electric hoist. Dies are stored in numbered positions which are indexed. The crane makes it easy to reach every die.

*GET THIS BOOK!*

CLEVELAND TRAMRAIL DIVISION
The Cleveland Crane & Engineering Co.
609 East 200th Wickliffe, Ohio

**CLEVELAND TRAMRAIL**

BREVITY—Identify by IEN - 8546 if you write the maker

## Rolling Steel Doors

*Manually • Mechanically • Power Operated*

No other type of door offers so many desirable features as a good Rolling Steel Door . . . open or closed, they occupy no visible space inside or outside the opening. All-metal construction assures permanence and a lifetime of continuous trouble-free service. Push-button controlled vertical roll-up action provides the quick, timesaving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type — competition will convince you. See Sweet's File for complete information, or write for Catalog No. G-50.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

**MAHON**

▼ FREE!!!—Identify by IEN-8547 if you write the maker ▼

▼ FREE!!!—Identify by IEN-8548 if you write the maker ▼

Join piping "Flexible Tight" in half a minute with Dresser "No-Thread" Fittings. Just slip the fitting over pipe; pipe ends and tighten end nuts with a wrench. Joints are permanently tight. Resilient rubber gaskets absorb vibration, expansion, contraction.

A complete line of regular and long couplings, ells, tees, etc., is available. Sizes ½" to 2". Send today for catalog.

**DRESSER** "NO-THREAD" FITTINGS

Dresser Manufacturing Division—One of the Dresser Industries, 20 Fisher Ave., Bradford, Pennsylvania. In Canada: 1111 Rockwell St., Brantford, Ont. Canada. Export Office: New York, Chicago, Houston, San Francisco.

▼ FREE!!!—Identify by IEN-8549 if you write the maker ▼

**Want to cut down on cleaning costs?**

Send for this new book which shows and illustrates the "DUAL ACTION" Heavy-duty G-E Detergent.

Use the facts for yourself! HOW and WHY detergent, high pressure, HIGH-TEMPERATURE G-E Motorized one-gallon cleaner and frog and sponge. Read about the powerful new G-E Cleaner for weight only 2.0 lb. Learn how G-E Cleaning gun quickly adapted for H.T.T. pickup. . . . the time, fuel, money it will save by using water . . . and how it polishes when cleaning and washing overhead.

MAIL TODAY

GENERAL ELECTRIC

▼ FREE!!!—Identify by IEN-8550 if you write the maker ▼

**SPARK PLUG . . Jet firing design accelerates ignition, keeps point clean**

Source: THOMAS AUTOMOTIVE PRODUCTS MFG. CO.
214-18 Seventh St., Rockford, Ill.

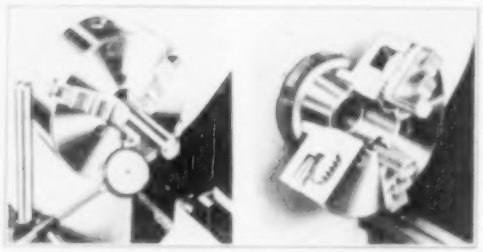
**A firing chamber** with five divided orifices is formed by the Motor housing of this new spark plug around the central nickel electrode. This is forced into the chamber and is compressed on the upward movement of an engine piston during the compression stroke. The gas so produced, outward throughout is the instant that the plug circuit is closed. The action accelerates ignition in the engine cylinder. It also purges the chamber of any foreign matter that would prevent a firing.

**Monel and nickel** are employed in the construction except for the ceramic insulator and the brass ignition wire nut. This the unit is not subject to corrosion. It can be taken apart for cleaning which is recommended after 10,000 miles of vehicle operation or equivalent continuous engine operation. The spark gap is set at the recommended .08 inch by the company but can be reset by forcing the instrument screw between the seat of the electrode. One full turn is .05 in. of axial movement. The plug is being made at present in 14 and 18 mm. sizes (equal for standard engines).

▼ FREE!!!—Identify by IEN-8551 if you write the maker ▼

**CHUCK . . Universal scroll design for AS spindle noses, 6, 8, 10, 12 in.**

Source: UNION MFG. CO.
50 Church St., New Britain, Conn.



**Bearing surface** for the scroll in the new chuck is in the same portion of the chuck body as the spindle bore to eliminate inaccuracies resulting from previous designs in which the scroll bore in the chuck face. The scroll (left) has a fine pitch thread (left) in the company's previous design to increase holding pressure over the previous design by 20 per cent.

**The 8-in. size** takes round stock through the body from ⅝ to 2⅞ in. It holds rounds on the outside diameter to 8 in. and rings to 6½ in. on the inside diameter. The scroll pinion uses a hexagon socket that can be operated by a standard hex-socket key wrench. The wrench will be damaged by excess pull before the chuck parts can be overstressed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 50

▼ FREE!!!—Identify by IEN-8552 if you write the maker ▼

**Automatic Liquid Volume Control**

**with NIAGARA *Electricontact* METERS**

Niagara Meters for any commercial liquid are combined with a precision electric contact to provide automatic shut-off for such operations as (1) stopping the flow of liquid through the pipe (2) shutting off a pump motor (3) visual or audible signal to operator. Increase processing accuracy—with dependable Niagara *Electricontact* Meters!

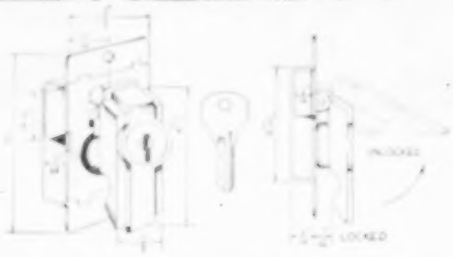
*Send Coupon for Complete Data!*

Please send me full information on use of your Niagara *Electricontact* Meter for
Liquid
Temp. °F Pressure p.s.i.
Flow rate g.p.m.
Maximum Batch gals.
Company
By
Address

**BUFFALO METER CO.**
2929 MAIN STREET BUFFALO, N. Y.

▼ FREE!!!—Identify by IEN-8553 if you write the maker ▼

**CORBIN LOCK ENGINEERS DESIGN NEW LOCKING DEVICES**




Send for the Corbin Industrial Catalog showing special locks for unusual applications.

**THERE IS NO COST**

Inquiries for special locks will receive engineering attention.

**CORBIN CABINET LOCK DIVISION**
The American Hardware Corporation
NEW BRITAIN, CONNECTICUT

▼ FREE!!!—Identify by IEN-8554 if you write the maker ▼

▼ FREE!!!—Identify by IEN-8555 if you write the maker ▼

AMERICA needs continued production in every plant . . . every worker must get the most out of every hour of every working day! Why not help banish worker fatigue with abundant drinking water constantly provided by Halsey Taylor Coolers and Drinking Fountains? Write for latest catalog.

THE HALSEY W. TAYLOR CO., Warren, Ohio

**HALSEY TAYLOR**
FOUNTAINS AND COOLERS

▼ BREEZITT—Heads by IEN-8556 if you write the maker ▼

## Varying Speed Requirements

QUICK-- EASY-- ACCURATE with

**LINK-BELT P.I.V. Variable Speed Drive**

The exact speed for your need is quickly obtained and positively maintained by the simple turning of the hand-wheel on the Link-Belt P.I.V. Variable Speed Drive.

Strong as an iron chain, making hours to maintain contact with metal wheels every r.p.m. is transmitted without the possibility of slip.

Compact, fully enclosed, available in vertical or horizontal form, with or without extra reduction gear or motor or without housing for built-in purposes. Eight sizes, up to 75 h.p.

LINK-BELT COMPANY

Book 2274
Gives full details

SEND FOR YOUR COPY TODAY

▼ BREEZITT—Heads by IEN-8557 if you write the maker ▼

## HERE IS GOOD NEWS

Now you can have prints that are **blacker . . . cleaner longer-lasting**

# DIRECTO

**send for free samples of this new, improved better paper and prove to yourself you can get better direct positive prints**

New improved chemicals and new improved papers have been combined to give you direct positive prints with blacker-than-ever lines on whiter-than-ever backgrounds. The new, improved, better DIRECTO print paper is tougher, resists tear and wear. . . . Depend on DIRECTO, too, for uniformly black lines, for DIRECTO developing solution is chemically stable, always brings out strong black images, whether mixed fresh or old. Now DIRECTO print paper is available with pink, blue, yellow and green background colors, in addition to white, in cut sheets or rolls.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Los Angeles • Pittsburgh • Washington
Philadelphia • Milwaukee Dealers in All Principal Cities

FREE SAMPLES

Test DIRECTO on your own ideas, yellow pads, work. Write on back of samples, submit them for photo copying, test without obligation.

**DIETZGEN**
DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

▼ BREEZITT—Heads by IEN-8559 if you write the maker ▼

## TRUCK . . Keg handling attachment replaces forks on company's lift truck

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio

Six kegs, each weighing about 200 lb., are piled upon the shaft which might be picked up by this new handling attachment and the attachment frame is lowered over them to be secure as upon the truck. The frame pulls the kegs in against three rubber-faced stops on the frame to grip as one by compression as they can be carried to a new location or placed for storage.

The guide frame has a 30 in. stroke in relation to the mounting on the truck uprights. The frame measures 54 in. in diameter by 19 in. in height in this unit. Other sizes can be specified.

▼ BREEZITT—Heads by IEN-8560 if you write the maker ▼

## CONTROL . . Electronic pyrometer with rise and fall anticipator element

Source: WHEELCO INSTRUMENTS CO.
845-9 W. Harrison St., Chicago 7, Ill.

List price is $250

New design of the company's Model 250P capacitron pyrometer includes a new anticipating control, known as the Capacitron. This control consists essentially of a two-position relay, adjustment for sensitivity and response time. Two modules add a low voltage electrical power circuit. The control compensates for any tendency to over or undershoot a temperature setting, resulting in smoother equipment operation.

Installation is as easy as the bolting of the company's conventional Model 240P "on-off" Pyrometer controlling pyrometer. Operation is on 110 or 220 volt 60 cycle a.c.

▼ BREEZITT—Heads by IEN-8561 if you write the maker ▼

## MICROSCOPE . . Stand mounted unit for shop use, gives 20 X magnification

Source: BUHL OPTICAL CO.
107-11 Beech Ave., Pittsburgh 12, Pa.

Work pieces to 12 in. in height can be examined through this new Model 8-190 microscope after adjusting the 3 in. in diameter mounted lens to the magnification desired on the supporting stand. Focal of each is 11.6 mm. Working distance is 40 mm. Focusing is by turning the eyepiece. The objective is achromatic and is mounted in its own rack for interchangeability with other microscope objectives. List price is $21.40.

*40 Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30*

▼ BREEZITT—Heads by IEN-8562 if you write the maker ▼

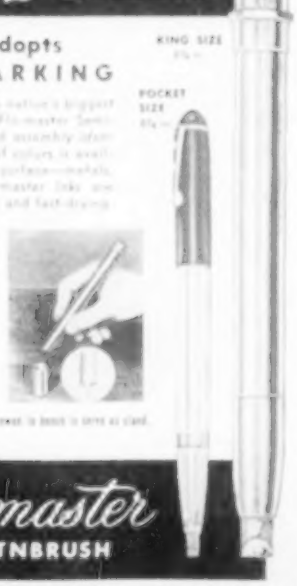
## NOW! —your favorite marking tool IN 2 SIZES

Industry Adopts COLOR MARKING

Our records show that the nation's biggest manufacturers are using Flo-master Semi-Opaque Inks for parts and assembly identification. A wide range of colors is available for marking on ANY surface—metals, plastics, wood, etc. Flo-master Inks are waterproof, non-smudging and fast-drying.

For fine marking use the POCKET SIZE Flo-master—for bold marking, the KING SIZE.

Ask your supplier or if you have an unusual problem, write to Cushman & Denison Mfg. Co., 135 W. 23rd St., New York 11, N. Y.




Say it "King Size" and be certain it doesn't is never as good.

*Flo-master* FOUNTNBRUSH

▼ BREEZITT—Heads by IEN-8563 if you write the maker ▼

Glass container manufacturer reports increase in production . . . decrease in costs

• When this glass container manufacturer's new plant, Fort Worth, Texas, was completed, the production of Glass Jars, was planned to grow from and have a base equal to half producing pre-conversion capacity. Now, only approximately two months after the production of strong Cyclone Metal Conveyor Belts, in more plants. One equipment, nearly 25 percent equivalent to producing conveyor belt installations. This will be able to hold more — without obsolescence. And more for a wide of Jars Catalog 51.

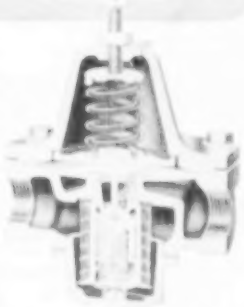
CYCLONE FENCE DIVISION
DEPT. CM, MARION, ILLINOIS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

**CYCLONE METAL CONVEYOR BELTS**
UNITED STATES STEEL

▼ BREEZITT—Heads by IEN-8564 if you write the maker ▼

*install them* **AND FORGET THEM . . .**

You ask: Is the valve trouble-free and long-lasting? Cash-Acme Type B valve is 20 years ago it was developed as a pressure reducing and regulating valve you could trust. Thousands of installations since have proved it does the job—no need to worry.



Single-seated direct-acting Type B, for water, air, steam, oil and gas.
½" through 2" pipe sizes.
Ask your M/I Supply Dealer.

**CASH-ACME** *Automatic Valves*

A. W. CASH VALVE MANUFACTURING CORP.
6612 East Wabash Avenue, Decatur, Illinois, U. S. A.

▼ BREEZITT—Heads by IEN-8565 if you write the maker ▼

EVERYTHING *for safety, power and convenience!*

C/R's NEW **JAW-HEAD** *Rawhide* **HAMMER**

Protects fine finishes and delicate machine parts. Delivers powerful controlled blows for long periods. To change tightly coiled Rawhide faces, simply loosen nut, replace faces, tighten and the hammer is ready for use. Faces are made of tough, resilient water buffalo hide, most durable of all "soft" striking surfaces. Safety-Flare grip handles are easy to hold—prevent slipping. For everything you need in a "soft" hammer, use the new C/R Jaw-Head *Rawhide* hammer.

• Other C/R striking tools: Rawhide Mallets, Rawhide Mauls, Solid Head Rawhide Hammers.

Available from leading mill supply houses.

**CHICAGO *Rawhide* MFG. CO.**
1293 Elston Ave. Chicago 22, Illinois

BREVITY—Identify by IEN-8566 if you write the maker

SHORT-CUT to IRREGULAR SHAPES

THE HEINRICH HEAVY-DUTY
HANDNIB
A HAND-OPERATED COMBINATION NIBBLING, SHEARING, PUNCHING AND ROD CUTTING MACHINE.
(With Swivel Base)

Capacity: Nibbling and Shearing 3/16" flat stock . . . Punching Holes up to ½" in ⅛" sheets . . . Rod Cutting 3/16", ¼", 5/16" and ⅜" round bars.

Ask for descriptive folder
Prompt delivery

NATIONAL MACHINE TOOLS CO.

THE NATIONAL MACHINE TOOL CO.
1316 CLARK STREET • RACINE, WISCONSIN

BREVITY—Identify by IEN-8567 if you write the maker

for fast, easy floor care . . .
. . . there's nothing like a
Clarke

CLARKE FLOOR MAINTAINER
Scrubs, waxes, polishes, steel wools, sands floors, shampoos carpets. "Finger-tip" safety switch. Adjustable handle. Self lifting wheels.

CLARKE HUBRIKLEEN ELECTRIC MOPPER
Instantly picks up scrub water. Enables one man to do the work of ten men with ordinary mops.

CLARKE HEAVY DUTY WET AND DRY VACUUM
Powerful suction quickly picks up water, dirt, dust. Quick-draining dump valve eliminates heavy lifting.

• Write for catalog or free demonstration!

Sales & Service Branches in All Principal Cities

Clarke SANDING MACHINE COMPANY
289 Clay Ave. Muskegon, Mich.

BREVITY—Identify by IEN-8568 if you write the maker

For your high stress Fastening Jobs use Cleveland's EXTRA STRONG High Carbon Heat Treated Cap Screws

• Fasteners of great strength and uniform accuracy made by the Kaufman Quality Control Process. Complete range of bolt diameters from ¼" up. Write for our monthly stock list.

CLEVELAND Top Quality FASTENERS
THE CLEVELAND CAP SCREW COMPANY
1911 East 24th Street • Cleveland 6, Ohio
Warehouses: Chicago, Philadelphia and New York
Ask for Catalog No. 1 Standard Fasteners

## For Your Special Information

### ALL MAKERS ARE LISTED — IEN S-29

**Month by month** we have been telling you about Thomas' Register to which reference is made at the bottom of the middle column in each issue of IEN. We have emphasized its complete listings of manufacturers under all product headings. We have suggested that you check your own purchasing department to see if it has the current edition that you can use or that you subscribe for it for your own office.

**Now we must change** the "tune" a little because, for the balance of this year, we will not be able to fill further orders. The current edition is sold out. We do suggest that you place your reservation order for next year's edition if you want to make certain to receive one or that you suggest to your purchasing department that you subscribe for it for your own office.

### MORE POWER TO AMERICA SPECIAL — IEN S-30

**A good many thousand** industrial men have viewed the highly interesting and instructive exposition of products contained in the General Electric home-car train about which we told you in IEN-S782 in April of this year. We give you now the following tentative schedule for September:—

| Place | Arrive | Leave | Days |
|---|---|---|---|
| Erie | 9/6 | 9/6 | 1 |
| Cleveland | 9/7 | 9/13 | 5 |
| Toledo | 9/14 | 9/15 | 2 |
| Detroit | 9/16 | 9/24 | 5 |
| Saginaw | 9/25 | 9/25 | 1 |
| Lansing | 9/26 | 9/26 | 1 |
| Grand Rapids | 9/27 | 9/27 | 1 |
| Kalamazoo | 9/28 | 9/28 | 1 |
| Jackson | 9/29 | 10/1 | 1 |

**Bear in mind** that the train is not open to the public but is designed specifically for representatives of electric power companies, transportation and industrial plants and for government and civic leaders concerned with community and national welfare projects. Admission is by invitation only and these invitations are being issued by the company's district offices.

### ALUMINUM SHEATHED CABLE — IEN S-31

**Seamless aluminum** sheathing has been applied successfully by Aluminum Company of America in a method for which patent application has been made. The aluminum replaces lead on telephone and electric power cables. One foot of the aluminum sheathing weighs about one-eighth as much as lead. Lengths are now under test.

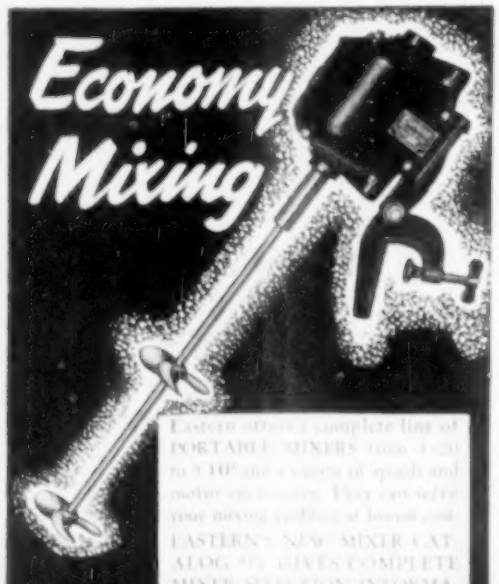
### THIN STEEL — IEN S-32

**Alloy steel** measuring .00625 in. in thickness by .1 in. in width is now being rolled by Armco Steel Corporation for use in manufacture of certain electronic equipment. A recent order was packaged and shipped by first-class mail in an aspirin box. The steel is cold rolled on a mill pounding 5/16-in. coils starting with strips 2 in. in width that have been rolled down on larger equipment to between .001 and .002 inch. These strips are reduced to the final .00625 in. in succeeding passes and then are set into ribbons measuring .1 in. in width. The ribbons are coated, wound into tiny coils and annealed.

Top Management:
YOUR BOOST
IS NEEDED MOST

BREVITY—Identify by IEN-8569 if you write the maker

Economy Mixing



Eastern offers a complete line of PORTABLE MIXERS from 1/20 to 5 HP and a variety of speeds and motor specifications. They can solve your mixing problem at lowest cost. EASTERN'S NEW MIXER CATALOG #71 GIVES COMPLETE MIXER SELECTION INFORMATION. WRITE TO DEPT. RD.

Eastern INDUSTRIES INC.
REGENT ST. EAST NORWALK, CONN.

BREVITY—Identify by IEN-8570 if you write the maker

DON'T SHUT-DOWN MACHINES FOR FREQUENT GLOVE CHANGES!

USE JOMAC
LONGER-LASTING WORK GLOVES

FLEXIBLE
REVERSIBLE
(FIT EITHER HAND)
HEAT-RESISTANT
7 Times the Wear in Every Pair

JOMAC WORK GLOVES
C. WALKER JONES CO.
6135 N. Lambert St. Philadelphia 38, Pa.

BREVITY—Identify by IEN-8571 if you write the maker

NEW Outstanding Split Cutters
Increases Life of Engraving and Router Cutters

Save Time — Save Money
Reduced Tooling Time
Cutter Life Increased 500%
Strength at Points Increased
Four Points Available with One Tool
Grinding to Thickness Eliminated
Less Skill Required to Sharpen

The first improvement in Engraving Machine and Router Cutters since their invention years ago.

PITTSBURGH
STENCIL AND TOOL COMPANY
405 PENN AVENUE • PITTSBURGH, PA.

BREVITY—Identify by IEN-8572 if you write the maker

U.S.I. SOUND POWERED
assures dependable communication

SAVE TIME...
DON'T WALK...
TALK!

Send for this new catalog describing advantages of U.S.I. Sound Powered Telephones.

CUT COSTS...
INCREASE YOUR EFFICIENCY

UNITED STATES INSTRUMENT CORPORATION
SUMMIT---NEW JERSEY

BREVITY—Identify by IEN - 8573 if you write the maker

# LEKTROMESH

THE UNIQUE SOLID-METAL SCREEN

*Distinguished for its*

- ★STABILITY in use
- ★UNIFORMITY of Hole Size
- ★WORKABILITY in Manufacturing Processes
- ★DIVERSITY of Applications to Research and Production

Electrodeposited in pure copper, pure nickel, or nickel-on-copper — in regular commercial production with counts from 25 to 400 per inch — in lengths up to 100 feet and widths up to 36 inches — with tolerances on hole size and thickness suitable for the most critical uses — LEKTROMESH is ideal for precise filtration, for fabricated products such as fuel filters and electronic shields, even for decorative decorative screens with an integral pattern. For full details let us send our Bulletin on LEKTROMESH. Address Department 12.

THE C. O. JELLIFF MFG. CORP.
SOUTHPORT CONNECTICUT

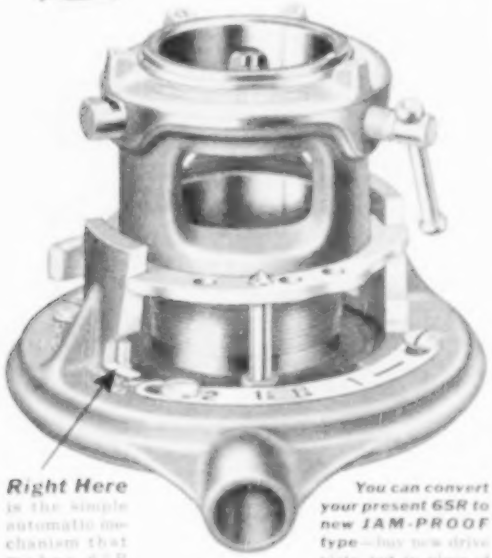
BREVITY—Identify by IEN - 8574 if you write the maker

# NOW New Streamlined RIGID 65R

## Die Stock that WON'T JAM

. . . while threading with power drive or by hand

New *JAM-PROOF* drive plate automatically kicks out driving ratchet pawl when standard length thread is cut. You don't have to watch it — lead screw can't jam on workholder.



***Right Here*** is the simple automatic mechanism that makes 65R ***Jam-Proof***

***You can convert your present 65R to new JAM-PROOF type*** — buy new drive plate, put in place of old plate.

All other RIGID 65R features remain the same

Perfect threads on 1/4" to 2" pipe with 1 set of high-speed steel dies — sets to pipe size in 20 seconds — mistake-proof self centering workholder sets instantly — and now it's *jam-proof*

Buy new JAM-PROOF 65R at your Supply House

RIGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO

BREVITY—Identify by IEN - 8576 if you write the maker

## SCREW DRIVER . . Square shank tool with screw holding clip, Amberyl handle

Source: VACO PRODUCTS CO.
215-19 E. Ontario St., Chicago 11, Ill.

**Klipxon** is a new unit in the company's line of screw drivers in which a spring-steel clip slides on the square shank and acts to hold a screw by the spring action in the slot. The tool is available in two lengths, sizes and various insights. List price is 60 to 85 cents, depending upon the model.

BREVITY—Identify by IEN - 8577 if you write the maker

## CORROSION PROOFING . . Chemical produces protective film on aluminum

Source: ALLIED RESEARCH PRODUCTS INC.
4044 E. Monument St., Baltimore 5, Md.

Packed in 10 to 100 lb. containers

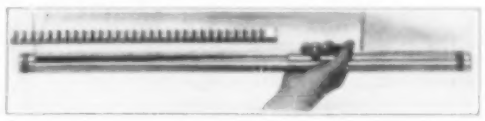
**Eridite No. 11, A1-Coat**, is a new chromate-type chemical supplied in powder form to dissolve in water in the proportion of 3 oz. per gallon. The solution is held in a stainless-steel or lined tank at 75 to 85 deg. F. and aluminum work pieces are immersed in it. Immersion interval is ½ to 5 min. to produce a film ranging from colorless to an iridescent yellow.

**The aluminum** is cleaned prior to immersion in conventional manner. It is cold and hot rinsed at the end of the operation and finally dried. The dry film is resistant to salt spray and abrasion. It is a good electrical conductor and provides an excellent base for paint. The coated material can be welded by spot and shielded arc equipment.

BREVITY—Identify by IEN - 8578 if you write the maker

## BROACHING . . Push type tool holds cutter in each of two slots

Source: KASE MACHINE CO.
18423 Buffalo Ave., Cleveland 19, Ohio



**Roughing and finishing** cuts are taken by this new Series 106 Gisomy broach by positioning the cutter first in the deepest and then in the shallowest of two slots carried in the holder body. The arrangement for two-pass operation permits cutting long deep keyways. The unit shown has a 1 1/4 in. body diameter, is 28 in. in overall length and takes a 15 5/8 in. blade with 20 teeth for a keyway 5/8 in. in width by 3/4 in. in depth to 8 in. in length. Required pressure does not exceed 4 ton.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50*

BREVITY—Identify by IEN - 8579 if you write the maker

BREVITY—Identify by IEN - 8580 if you write the maker

BREVITY—Identify by IEN - 8581 if you write the maker

Why a VICKERS *Standard* Magnetic Amplifier can improve your controls

- HIGH PERFORMANCE—power gains up to 30,000
- NO MAINTENANCE
- RUGGED CONSTRUCTION—no moving parts
- NO WARM-UP TIME
- RESPONDS TO SUM OR DIFFERENCE OF SEVERAL SIGNALS
- ALLOWS ELECTRICAL ISOLATION BETWEEN CIRCUITS

**Typical Applications**

Speed regulators • Voltage regulators • Servo systems—positioners and indicators • Hydraulic controls • Control relays • Temperature regulators • Lamp and furnace controls

*Write for Bulletin 20-A describing Vickers complete line of Magnetic Amplifiers. Please make request on your letterhead.*

VICKERS ELECTRIC DIVISION
1809 LOCUST STREET • ST. LOUIS 3, MISSOURI

BREVITY—Identify by IEN - 8582 if you write the maker

# Roper "K" Pumps

MEASURE UP TO THE UL CHECK LIST

- ✓ Compact Design
- ✓ Reliability
- ✓ Durability
- ✓ Ease of Installation
- ✓ Freedom from Repair or Adjustment

Sizes ¾, 1½, 3, 5 G.P.M.
Series K Pumps Tested and Approved for
**OIL BURNER SERVICE**

Roper Series K Pumps meet the standards set up by Underwriters' Laboratories, Inc., and then some! Suitable for oil burner service, they are available in either packed box or mechanical seal designs — with or without relief valve. The ¾, 1½, and 3 G.P.M. sizes are flange mounted . . . 5 G.P.M. size is foot mounted. Get *all* the facts on Roper Series K Pumps . . . write today!

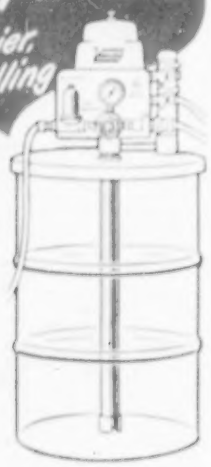
ROPER *Rotary Pumps*

GEO. D. ROPER CORP.
209 Blackhawk Park Ave.
ROCKFORD, ILLINOIS

▼ BREEZIT—Identify by IEN - 8583 if you write the maker ▼

# Alemite VERSATAL PUMPS

For Faster, Easier, Cleaner Glue Handling



Air-operated Versatal Pumps deliver glues and adhesives directly from bulk storage to your point of application. Saves time and work. Ends troublesome handling and transferring of materials.

Hydraulic pressures deliver materials through as much as 1000 feet of hose or pipe, serve up to six spray heads. For free book of ideas on how Alemite Versatal Equipment can help solve your material handling problems, write Alemite, Dept. 1-D9, 1850 Diversey Pkwy., Chicago 14, Ill.

Another Product of Stewart-Warner

ALEMITE Versatal DIRECT FLOW EQUIPMENT

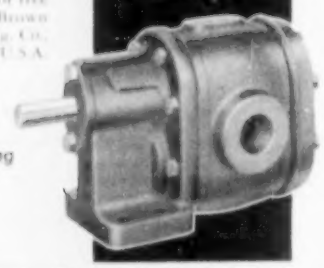


▼ BREEZIT—Identify by IEN - 8584 if you write the maker ▼

Equipped with helical gears and roller bearings, these Brown & Sharpe Rotary Geared Pumps offer smoother, more efficient operation in hydraulic systems. Available in two sizes: No. 55 has a capacity of 4 to 23.2 gpm, and No. 55 from 9 to 54.1 gpm. They operate under pressures up to 200 lbs. per sq. in.

Run in one direction only, either clockwise or counterclockwise. Pumps have positive mechanical seal. Write for free pump catalog. Brown & Sharpe Mfg. Co., Providence 1, R.I., U.S.A.

# Rotary Geared Pumps for Hydraulic Service



*Quiet pumping

*Smooth, continuous flow

*We's wise buying through the Distributor*

BROWN & SHARPE DBS



▼ BREEZIT—Identify by IEN - 8585 if you write the maker ▼

# ...NEW! AMERICAN "PAK-IT" Hand Truck

The American Pulley Company

4240 WISSAHICKON AVE. PHILADELPHIA 29 PA.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

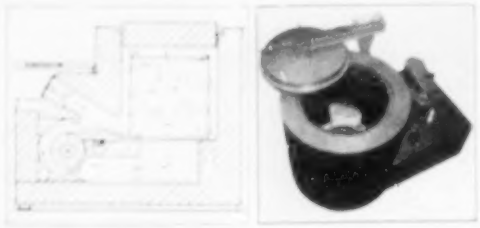
CITY _____ STATE _____



▼ BREEZIT—Identify by IEN - 8586 if you write the maker ▼

## HEAT TREATING . . Gas fired furnace passes heat around and through the work

Source: STANDARD AMERICAN ENGINEERING CO. 7851-55 W. 43rd St., Lyons, Ill.



**Radiverton** [illegible] furnace for operating temperatures between 250 and 1800 deg. F. in which a variable-speed motor-driven blower recirculates products of combustion around a basket containing a load of work and then passes the hot gases down through the center of the load and back to the blower intake for recirculation. The burner fires [illegible] above the blower position. A self-metering flue in the mixing chamber will exhaust excess products of combustion when the burner is in operation.

**Basket sizes** range from 8 in. in diameter by 12 in. in depth to 72 by 72 in. in twenty standardized assemblies. Other special sizes can be specified. The furnace is assembled to a structural steel and sheet metal frame to stand up under heavy duty operation. Metal diameter is roughly 24 in. above the floor in addition to the basket diameter for [illegible] deg. F. maximum temperature, [illegible] for temperature to 1750 deg. F. The design is intended for installation below floor level so that the basket cover and surrounding wall are above it.

All Makers of Uses And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30



▼ BREEZIT—Identify by IEN - 8587 if you write the maker ▼

## CYLINDER . . Double acting design, 1 in. bore, brass tube and bar stock

Source: AIRMATIC VALVE INC. 1643 E. 40th St., Cleveland 3, Ohio

**Brass** is the material of construction in this low-pressure cylinder, which is known as Model C 1000 in the company's line of hydraulic and pneumatic equipment. It features a ½ in. piston rod in a 1 in. cylinder. Length of the stroke is to specification. The cylinder will handle air, oil, or water pressure to 1,500 pounds. In the universal design illustrated it measures 3 in. plus the stroke in overall head and cylinder length. The piston rod head end is 2 by 2 in. square.

**Construction** employs O-ring packings in the piston and around the piston rod and between the cylinder ends and the heads. Three dowsons are the universal pins, a cotter and a retaining ring. Single-acting return springs assembly can be supplied to special order.

**List prices** are $24.50 and $26.50 respectively in alumine and stainless steel plus 60 cents or $3 extra for each inch of stroke length. The list is $23.30 and $27.30 in the other two designs. A spherical rod head adds $2. A double-end rod extension adds 30 per cent to the base price plus 6 cents per inch of stroke. Details are given in available literature.

All Makers of Uses And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30



▼ BREEZIT—Identify by IEN - 8588 if you write the maker ▼

# FABREEKA

FOR IMPACT SHOCK, VIBRATION, AND NOISE

Under HEAVY MACHINERY

NO BOLTS

SAVES FLOORS AND FOUNDATIONS

Used "IN COMPRESSION" Gives High Safety Factor
- GREAT STRENGTH — LONG LIFE
- NO TROUBLESOME PERMANENT SET
- CONTROLLED RESILIENCY
- EXTREMELY HIGH DAMPING
- GREAT STABILITY

SAVES INSTALLATION COST

No Bolts Needed When Used With Fabreeka Cement

HELPS IMPROVE QUANTITY AND QUALITY OF PRODUCTION

SAVES MAINTENANCE

Less Metal Fatigue
Fewer Breakdowns
Less Down Time
Less Upkeep

$ SAVES MONEY $

Used In Industry Since 1934

GET Your COPY

FABREEKA PRODUCTS COMPANY INCORPORATED

222K SUMMER ST., BOSTON 10, MASS.



▼ BREEZIT—Identify by IEN - 8589 if you write the maker ▼

# LO-HED

is America's finest hoist—yet

COSTS NO MORE!

IT DOESN'T TAKE an extra dollar to buy a Lo-Hed Electric Hoist. Set a Lo-Hed gives you a lot more for your money. It lifts loads higher because it has no working parts under the track or "I" beam. With A. C. push button operation, Lo-Hed has a transformer that protects operation. Its bottom block is shrouded for additional safety. Electrical cables are modern and division molded.

Lo-Hed Hoists come in five suspension types and from ¼ ton to 12 tons capacity. Units can be engineered for your own special needs.

LO-HED MEANS LOW OVERHEAD

AE

AMERICAN ENGINEERING COMPANY

PHILADELPHIA 25, PA.

AE Products are: Taylor and Perfect Spread Stokers, Marine Deck Auxiliaries, Hale-Shaw and Hydramite Fluid Power, Lo-Hed Car Shakers, Car Pullers, Hoists



▼ BREEZIT—Identify by IEN - 8590 if you write the maker ▼

# BETTER STAMPINGS WIDER USEFULNESS

from any metal working press when you equip with

# CLEARING DIE CUSHIONS

You can do more—both in variety and volume of work—with any metalworking press if you equip it with suitable die cushions as designed and built by Clearing—pioneers in their development. Cushions are useful in many ways—for blankholding on single action presses, for overload safety, for lift outs, and other applications.

Clearing guided cushions, pneumatic or hydro-pneumatic, are available in a great variety of types and sizes to fit almost any press, from small O.B.I.'s up to the largest presses built.

Write for your copy of Bulletin 212. It contains a wealth of valuable information about Clearing cushions and what you can do with them. There's no obligation.

CLEARING MACHINE CORPORATION

6499 WEST 65TH STREET • CHICAGO 38, ILLINOIS

▼ GREEFF—Identify by IEN-8592 if you write the maker ▼

# Are you willing to gamble a 3¢ stamp

## on lower unit costs for your products?

JUST an ordinary 3c stamp may open the way to substantial savings for you—if you use it to send us an outline of your spring requirements. As they often have in the past, our skilled springmakers and practical, experienced engineers may be able to show you how you can reduce your spring costs and perhaps even make it possible to simplify assembly of your product. Accurate's unsurpassed facilities and spring-making "know how" are your best bet for the right spring for your job at the lowest possible overall cost. And we're prepared to show you the "proof of the pudding." The sooner you "risk" that 3c stamp the sooner you'll be in line for the "pay-off." Why not do it TODAY!

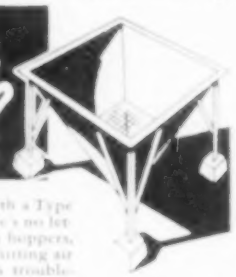
ACCURATE SPRING MFG. CO.
3107 W. Lake Street — Chicago 24, Illinois

Accurate Spring — Springs — Wire Forms & Stampings

Ask for the Accurate Spring handbook

▼ GREEFF—Identify by IEN-8593 if you write the maker ▼

# Bin Stuck Lately?



*It wasn't beat* it's equipped with a Type *F* Cleveland Air Vibrator. There's no let-up in the flow of material from hoppers, bins or chutes when this hard-hitting air vibrator is in action . . . stops trouble-some arching and plugging of bins.

Engineered for rugged service, Type *F* Air Vibrators are low in air consumption and cost, and require only minimum maintenance . . . easily attached to wood, metal or concrete structures.

Complete 'packaged' vibrator kits, including fittings, lubricator, operating valve and vibrator are obtainable to move bin loads from one to several hundred tons. Instant starting with full power is assured.

With 6 standard sizes available from stock, there's a type *F* Cleveland Vibrator to stir any bin into action.

Drop a card in the mail for Catalog No. 105

THE CLEVELAND VIBRATOR COMPANY
2737 Clinton Ave. • Cleveland 13, Ohio

▼ GREEFF—Identify by IEN-8594 if you write the maker ▼

FREE! Send for Folder 50M for full information

Anti-Corrosive Metal Products Co., Inc. — SINCE 1927
Manufacturers of STAINLESS STEEL FASTENINGS
CASTLETON-ON-HUDSON, NEW YORK

▼ GREEFF—Identify by IEN-8595 if you write the maker ▼

## RELAY . . Electronic design, contacts rate 4 amp. on 100 volt ac.

Source: SERVO-TEK PRODUCTS CO.
2-6 Godwin Ave., Paterson 1, N. J.

**Attention** [illegible]

**The relay** [illegible]

▼ GREEFF—Identify by IEN-8596 if you write the maker ▼

## CORROSION PROOFING . . Flame spray service to apply polyethylene coating

Source: HOUGHTON LABORATORIES
888-92 N. 4th St., Olean, N. Y.

Available on contract basis

**The company** [illegible]

**The process** [illegible]

▼ GREEFF—Identify by IEN-8597 if you write the maker ▼

## BEARING . . Sealed flange assembly ball design, 1/2 to 3/4 in. shaft

Source: AHLBERG BEARING CO.
3044 W. 47th St., Chicago 32, Ill.

**Series FED** [illegible]

**List price** [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 56

▼ GREEFF—Identify by IEN-8598 if you write the maker ▼

# Special TYPES ARE STANDARD at Fairbanks

**HAND TRUCKS** of special design required for many industries are run-of-the-mill stock items in the Fairbanks catalog. There's a type for every need . . . of sturdy design, high grade materials . . . and built to last. Here are some typical examples. If you don't see what YOU need—ask for it.

LEVER TRUCKS (Pry-Bars)
Tremendous leverage to handle heavy cases, crates, machines, etc. Raises loads 9 in. from the floor. 5, 6 and 7 foot lengths.

Fig. 500 JACK and PLATFORM TRUCK
Efficient, low cost 500 jack and platform system increases production, cuts costs. Many standard platform sizes available; special sizes to order.

Fig. CC-10 TIER TRUCK
Beverages, cartons and crates can be handled more efficiently. High stacking cuts down storage space. Capacity 750 pounds.

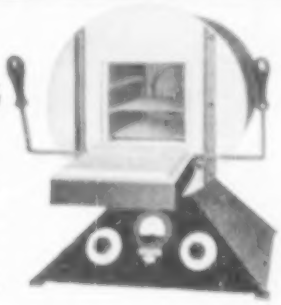
THE Fairbanks COMPANY
General Offices: 393 LAFAYETTE STREET, NEW YORK 3, N. Y.
Branches: New York 3, Boston 10, Pittsburgh 22, Rome, Ga.

VALVES · DARTS & PIC UNIONS · TRUCKS · CASTERS

▼ GREEFF—Identify by IEN-8599 if you write the maker ▼

HEVI DUTY ELECTRIC COMPANY

A New HEVI DUTY TEMPERING FURNACE



*That Gives You Many Advantages in Temperatures From*

300° F. to 1250° F.

Type 0771A (inside dim. 1 7" W x 12" L x 7" H)

- Uniform Heating With High Speed Circulation
- Less Heat Loss — Improved Insulation and No Rheostats
- Better Control Through a 36 Step Tap Changing Transformer Built into the Pyramidal Base
- Indicating Pyrometer Mounted on Panel With Top Switches
- Easily Removed Alloy Baffle
- Dependable Multiple Unit Heating Elements

WRITE FOR BULLETIN LAB-1049.

HEVI DUTY ELECTRIC COMPANY
MULTIPLE UNIT
MILWAUKEE 1, WISCONSIN

▼ GREEFF—Identify by IEN-8600 if you write the maker ▼

# New TAG Light Recorder

## Charts Changes in Illumination

Measures and records—*accurately*—fast fluctuations in emitted light, beam candlepower or general illumination. Compact photoelectric cell (left) is used wherever convenient; recorder (right) mounts on the wall. This versatile new instrument

MEASURES
[illegible]

DUPLICATES
[illegible]

RECORDS
[illegible]

Send for full details

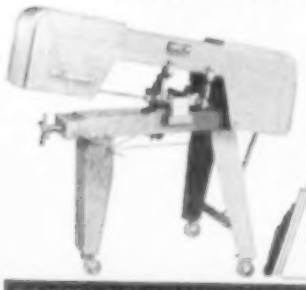
WESTON ELECTRICAL INSTRUMENT CORPORATION
Manufacturers of TAGIodion and Weston Instruments
630 Frelinghuysen Ave. • Newark 5, N. J.

TAG Since 1831

▼ GREEFF—Identify by IEN-8601 if you write the maker ▼

Yes, this Johnson "Junior" Band Saw can do a real job. It's small and handy, yet sturdy, and has speed, versatility and accuracy. Use it for production or occasional cutting in small shops or large plants. Furnished with or without casters. Roll it or carry it. Move it in a jiffy to do another job.

JOHNSON "JUNIOR" MODEL B BAND SAW



5" x 10" capacity. Inexpensive. Will pay for itself many times over.

ALSO MODEL L, a heavy, sturdy tool. Capacity 10" x 18".

Write for CATALOG!

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

BREFITT—Identify by IEN - 8602 if you write the maker

## PILLOW BLOCK BALANCING WAYS

Built in
1,000
2,000
5,000
10,000
20,000
Capacities

Anderson Bearings

Write for Bulletin No. 9-35

Especially suited for large diameter work as a sub-base can be made of proper height to give necessary clearance for work. Anderson Pillow Block Balancing Ways are precision built with chilled iron discs which rotate with minimum friction on sensitive special bearings. Many manufacturers have endorsed them for efficient static balancing.

**ANDERSON BROS. MFG. CO., Rockford, Ill.**

*Balancing Ways, Roto Checkers, Hand and Power Scrapers, Spotters, Hand and Power Hydraulic Straightening Presses.*

BREFITT—Identify by IEN - 8603 if you write the maker

## INCREASES TAP LIFE by Guided Accuracy

$18.75 POSTPAID

Quickly gage for small or small-lot tapping operations. Secures accurately tapped holes, increases work output, practically eliminates tap breakage and removal. Has rubber base for fixture. Special steel machined parts. Long spindle bearing provides accurate alignment and long life. Four hard steel collets furnished, handles standard tap shank sizes from No. 0 through ¼. Either right or left hand taps may be used. Finished in machine tool gray. Write for circular.

**H. D. HERDER TOOL SPECIALTIES**
8734 E. MICHIGAN AVE.
KALAMAZOO, MICH.

BREFITT—Identify by IEN - 8604 if you write the maker

## SPEED • SAFETY • SAVINGS

*IN LIFTING AND LOWERING*

*Send today* for new catalog giving complete information on capacities, prices, reach, chain pull, test load, etc.

Chester Hoists are available in standard and special Spur-geared types (⅛ to 25-ton capacity) or Differential type (⅛ to 1½-ton capacity). Complete line of trolleys, parts and accessories.

**THE NATIONAL SCREW & MFG. CO.**
Chester Hoist Division · Lisbon, Ohio

BREFITT—Identify by IEN - 8605 if you write the maker

## WINDING . . Toroidal coil machine for coils from 1¼ to 8 in. od.

Source: COSA CORP.
626 Chrysler Bldg., New York 17, N. Y.

**Type RW Micafil** is a new machine manufactured in Switzerland which the company is making available in the United States in three capacities. Overall range is 1¼ to 2¾ in. in minimum inside diameter, 3¼ to 8 in. outside and from 2 to 4½ in. in maximum height. Maximum shuttle speed is 200 rpm in winding, 400 rpm in storing. Shuttle storage capacities are 1¾ oz., 4¼ oz. and 4½ lb. of copper wire. Wire gages are 23 to 38, 18 to 32 and 10 to 28, all AWG.

**Standard equipment** includes the machine with base and head, turn counter, spool stand with length counter, coil supports for continuous or sector winding, and a set of change gears. The machine winds each strand close to the preceding one or spaces them. Operation is on 110 or 220-volt ac.

**The operation** starts with removal of a segment of the circular shuttle and the core of the coil to be wound is placed through this opening onto the coil supports. Wire from the supply spool is then hand threaded into the removed segment and it is replaced in the shuttle ring. Next the ring is shifted by moving a lever to a reverse position for wire loading and a predetermined length of wire is wound upon it. Then the wire is cut and the shuttle is shifted to winding position.

**The cut end** of the wire is held on the coil core by hand until the shuttle ring has wound one or two complete turns around the core. The machine then continues until all of the predetermined wire has been placed or the operation is stopped at a predetermined number of turns.

BREFITT—Identify by IEN - 8606 if you write the maker

## DRILLING . . Steel guide bushings and liners for No. 80 to No. 42 drills

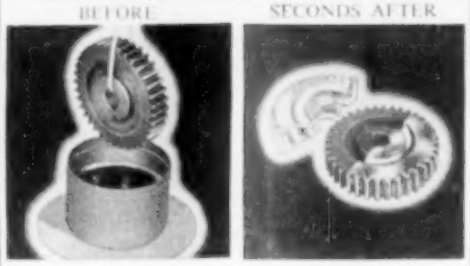
Source: MICRO DRILL GUIDE & ENGINEERING CO.
18513-17 Weaver Ave., Detroit 28, Mich.

New line of hard, steel, ground and lapped tungsten-steel drill for bushings and liners has been developed for shipment from stock to take drills from .0135 to .1875 inch. Four standard body sizes are ⅜ to ⅝ in. in diameter by ⅛ to ⅝ in. in shank length for the headed design or overall length for the headless liner units. Bores are chamfered on the entering end and are lapped. The bushings are available for press or slip fit. They are supplied size to an oversize for the user to grind.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER · Descriptions · Ratings · See Page 56*

BREFITT—Identify by IEN - 8607 if you write the maker

## HOT MELT PLASTIC COATINGS for GEARS • TOOLS • PRECISION PARTS




**DIP-PAK** Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating to quickly dip parts, cool. Lasts indefinitely. Tough, flexible, moisture, rust resistant. To remove, just peel. Remelt, re-use coating. Economical, practical, rapid. Protect parts; save money.

**Write for Bulletin and Free Samples**
**Fidelity Chemical Products Corp.**
**470 Frelinghuysen Avenue, Newark 5, N. J.**

BREFITT—Identify by IEN - 8608 if you write the maker

## ALL THESE ADVANTAGES ARE EXCLUSIVELY YOURS WITH RIC-WIL PREFABRICATED INSULATED PIPING SYSTEMS

Take advantage of these exclusive Ric-wil features to lower your installation, operation and maintenance costs. Forty years of design and installation "know-how" give Ric-wil Insulated Piping maximum dependability at the lowest possible cost.

Write today for your copy of Ric-wil Bulletins 600-A and 600-B. These contain full technical and engineering data on all Ric-wil products.

RIC-WIL
THE RIC-WIL COMPANY · CLEVELAND, O.
OVERHEAD · UNDERGROUND
FOR OVER FORTY YEARS THE GREATEST NAME IN INSULATED PIPING SYSTEMS

BREFITT—Identify by IEN - 8609 if you write the maker

*The Instrument You Have Been Waiting For!*

- SMALL SIZE LOW PRICE
- CONSTANT PRESSURE
- SLIP CLUTCH
- DC GENERATOR TYPE
- INSULATION TESTER

## *New* "MAJOR" MEGOHMER

*With Extra Ohm Scale!*

Ranges: 0-50 megohms and 0-30 ohms, or 0-10,000 ohms.
Test potential 500 volts DC.
Size: 7½" x 4" x 4"
Weight: 4 lbs. 14 oz.
In polished teakwood case, with solid leather carrying case and test leads.
True Ohmmeter movement independent of generator voltage.

**A REMARKABLE INSTRUMENT . . . AT A REMARKABLE PRICE**

*For full details write for Bulletin 465*

**HERMAN H. STICHT CO., INC.**
27 PARK PLACE · NEW YORK 7, N. Y.

BREFITT—Identify by IEN - 8610 if you write the maker

## SEND FOR ALLIED'S FREE NEW 212-PAGE 1951 CATALOG

ELECTRONIC SUPPLIES for INDUSTRY

Equipment for Research, Development, Maintenance and Production

*Complete, Expert Industrial Service*

Send today for ALLIED'S new 1951 Buying Guide to everything in electronics for industrial application. Rely on ALLIED for the world's largest stocks of parts, tubes, test instruments, tools, amplifiers, intercom and paging systems, complete quality lines of electronic supplies ready for shipment from stock. ALLIED'S expert Industrial Division saves you time, effort and money. Send today for your FREE copy of the 1951 ALLIED Catalog.

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Address
City Zone State

▼ BREVITY—Identify by IEN - 8611 if you write the maker ▼

# NEW ALLEN Tru-Round Dryseal Pipe Plugs

100% PRESSUR-FORMD.

- NEVER OUT OF ROUND
- LEAKPROOF METAL-TO-METAL SEAL
- FULL STRENGTH SOCKET WON'T STRIP OR WEAR

Ideal for extreme pressure applications. For use with dry seal taps. No sealing compound required. Pressur-Formd socket, unweakened by drilling and broaching, is stronger than the strongest key. Pressur-Formd burnished threads are nick and distortion-free, insure perfect thread contact, won't gouge softer metals. Perfect taper plus 360° roundness at both pitch and crest diameters assure accurate fit. Now available in 1/16" to 1-1/4" sizes. No increase in price.

**Sold only thru leading distributors.** Write direct for samples and engineering data on Allen Dryseal plugs, also Allen Tru-Round *Standard* Pressur-Formd plugs for a better seal in normal applications.

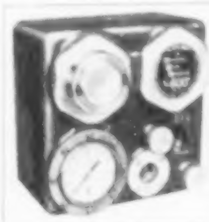
WARNING
Allen-TYPE screws aren't necessarily Allen-MADE. Be sure to get genuine Allens in the black and silver box.

ALLEN
MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.


▼ BREVITY—Identify by IEN - 8614 if you write the maker ▼

## VALVE . . Pneumatic pressure control combined with filter, gage, lubricator

Source: LOGANSPORT MACHINE CO.
913 Center Ave., Logansport, Ind.



**New design** of the company's ...

**Connection** is made to a shop line to ...

▼ BREVITY—Identify by IEN - 8615 if you write the maker ▼

## INSULATING . . Plastic material for wire, cable, electrical equipment

Source: E. I. du PONT de NEMOURS & CO.
8524-B Nemours Bldg., Wilmington 98, Del.

List price is
53 cents per pound

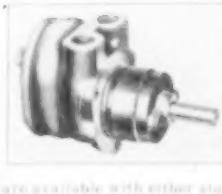
**Rulan** ...

**Power factor** ...

▼ BREVITY—Identify by IEN - 8616 if you write the maker ▼

## PUMP . . Rotary gear type for oil burner service, 1/4 to 5 gpm.

Source: GEO. D. ROPER CORP.
303 Blackhawk Park, Rockford, Ill.



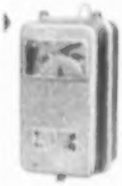
**New design** ...

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50*


▼ BREVITY—Identify by IEN - 8618 if you write the maker ▼

# for accurate time control of almost any job! ... GE TIME SWITCHES

TYPE T-47 HANDY TIME SWITCH. ...



TYPE T-27. ...

*Both switches are operated by Telechron motors and feature silver, snap-action contacts. Get in touch with your G-E distributor today, or write for Bulletins GEC-378 (T-47) and GEC-333 (T-27). Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC

▼ BREVITY—Identify by IEN - 8612 if you write the maker ▼

# a good steer for reduced maintenance

Mono-Cushion
INDUSTRIAL VEHICLE TIRES

TOUGH ALL THE WAY THROUGH
CUSHION ALL THE WAY THROUGH

Easy-steering Mono-Cushions soak up more bumps and jolts than any other type of industrial vehicle tire, size for size—and reduce your maintenance costs accordingly. In steering linkages, bearings, differentials, universals, transmissions—wherever shock or shock load is a factor—Mono-Cushions will save you money on repairs, cut vehicle downtime.

They'll save you money in other ways, too. Mono-Cushions will reduce your tire costs, to begin with. And they'll reduce load breakage and floor wear. They require no servicing and they're puncture-proof—go anywhere in the plant. And drivers like the easy ride and easy steering they get with Mono-Cushions.

*The leading manufacturers of industrial vehicles use Mono-Cushions as original equipment. Replacement tires available through the manufacturer of your equipment or his distributors.*

THE MONARCH RUBBER COMPANY
LINCOLN PARK HARTVILLE, OHIO

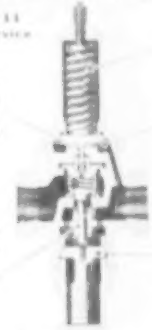
SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

▼ BREVITY—Identify by IEN - 8619 if you write the maker ▼

# 5 Quality Features

THAT ASSURE LOW COST PRESSURE REDUCING SERVICE

MASON NO. 11
for Steam Service



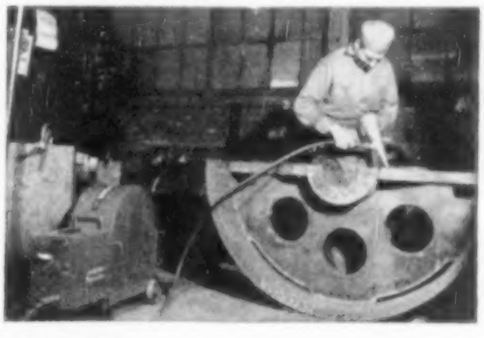
1. ...
2. ...
3. ...
4. ...
5. ...

The No. 11 Mason Reducing Valve assures precise pressure control in all types of applications. ...

*Your local Mason-Neilan industrial distributor is ready to serve you from his stock.*

MASON-NEILAN REGULATOR COMPANY
1188 ADAMS STREET, BOSTON 24, MASS., U. S. A.

▼ BREVITY—Identify by IEN - 8617 if you write the maker ▼



# NEW High-Current-Density

HIDDEN-ARC WELDING PROCESS

- **Faster Welding** ...
- **Easier Welding** ...
- **Versatile** ...

GET THE FACTS

Send for free "Manual Lincolnweld" Bulletin 1303. Write
THE LINCOLN ELECTRIC COMPANY
Dept. 124, Cleveland 1, Ohio

Sales Offices and Field Service Shops in All Principal Cities

▼ BREVITY—Identify by IEN - 8620 if you write the maker ▼

# Hamilton Steelwood Drawing Tables

give you the LIFETIME strength of steel!

Combining the best features of wood and steel, Hamilton Steelwood Tables are ...

Hamilton Manufacturing Company
Two Rivers 9, Wisconsin

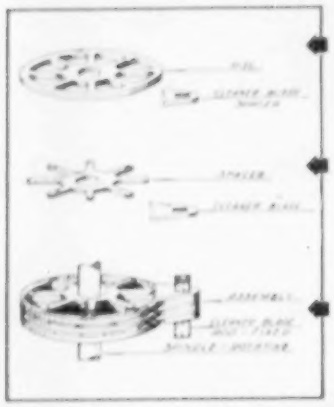
Name
Firm Position
Address
City Zone State

HAMILTON MANUFACTURING COMPANY
TWO RIVERS, WISCONSIN

▼ REPRINT—Identify by IEN-8621 if you write the maker ▼

# Non-Stop Fluid Cleaning

*Why there's no loss of production due to strainer cleaning when you strain with Cuno* AUTO-KLEAN



Turning metal discs past cleaner blades*

combs out all solids, even imbedded in strainer

without interrupting flow. No by-pass strainer needed.

*Periodically by hand or continuously by automatic means

**CUNO**

*Fluid Conditioning*

Removes More Sizes of Solids from More Types of Fluids

All metal AUTO-KLEAN is guaranteed to remove all solids larger than specified spacings (.0035 in. to .062 in.). Write for free AUTO-KLEAN bulletin. Cuno Engineering Corporation, 696 South Vine Street, Meriden, Conn.

▼ REPRINT—Identify by IEN-8622 if you write the maker ▼

## HOW TAPE HELPS INDUSTRY SAVE TIME, CUT COSTS...

**WHOLESALE GROCERS** handle retail-ready orders on shipping platforms with **PERMACEL**. Tape holds cartons securely during shipment — reduces breakage — saves money in time and labor.

**PAINTERS AND PAINTING CONTRACTORS** strip **PERMACEL** on top of baseboard to form protection shelf when painting window sills. **TAPE** keeps off paint — saves time — results better paint job.

**SEND FOR FREE BOOKLET!** SHOWS HOW TAPE CAN HELP IN YOUR BUSINESS Whatever your business, chances are you'll find the facts, figures and pictures in this 32-page booklet will help you cut costs!

Just fill out the coupon—and mail it today—to the address below for your copy.

INDUSTRIAL TAPE CORP. NEW BRUNSWICK, N. J.

NAME (PLEASE PRINT)

TITLE

COMPANY

ADDRESS STATE

CITY

**Permacel**

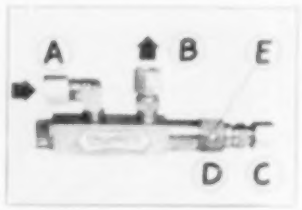
INDUSTRIAL TAPES

INDUSTRIAL TAPE CORPORATION • NEW BRUNSWICK, N. J.

▼ REPRINT—Identify by IEN-8624 if you write the maker ▼

## VALVE . . Piston operated, drains water, oil from compressor tank

Source: BRUNNER MFG. CO.
Broad & Utica Sts., Utica 1, N. Y.




**Brunner-Matic** is the name here given to an operated, solenoid-actuated valve for application beneath the receiver tank on a small air compressor. In this position the valve will open and close each time compressor is unloaded to provide an automatic blow-off to rid the tank of accumulated water and oil. The unit has capacity to handle compressors rating to 15 hp. with an 80-gal. tank. Pressure rating is to 150 pounds. Overall length is 4¾ inches.

**Connection** is made from the receiver tank drain opening to the elbow fitting A. The discharge line connects to the adjustable fitting B and a short line leads from the end C to the compressor unloader or air actuated from the compressor's after-cooler, when the unloader operates, one touch a piston in this end of the valve.

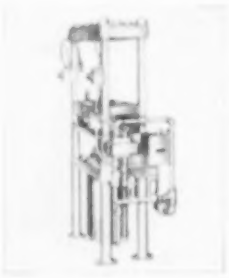
**This air** from the aftercooler moves the piston and a stem extending through a bore in the valve body to the left to unseat a tapered valve that is spring tucked near the opposite end. This permits pressure in the receiver tank to blow through the valve to the exterior discharge, carrying the water and oil with it.

**Duration** is adjusted by turning a knurled nut D to control the opening to a fixed port E to release the air to the piston from the aftercooler. When the air trapped in the after-cooler by operation of the unloader has been released through the vent, pressure stores on the piston and the return spring in the valve body closes the port from the tank. This occurs in a second or so sufficient to purge the compressor tank with only a few cu. ft. of compressed air.

▼ REPRINT—Identify by IEN-8625 if you write the maker ▼

## PLASTIC MOLDING . . Pneumatic press to handle quick curing alkyd resins

Source: HANNIFIN CORP.
1108 S. Kilbourn Ave., Chicago 24, Ill.



**Rating** is 15 tons on 80-lb. shop-line air pressure for this new upward-acting pneumatic press. Control centers at two positions located on the front contains for closing action that can be adjusted down, for a fast interval. The platen stops dwell at a predetermined point for closing accurately in moments-time of delicate molded parts. The positionings and a dwell are for instant reversing are through one of the compressor's ⅝ in. Model NE electric valves.

**Equipment** includes a timer for the curing interval. Distance between platens is 17½ to 30½ inches. Stroke is 7 inches. Dimensions between columns are 11 and 21⅝ inches.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 56*

▼ REPRINT—Identify by IEN-8626 if you write the maker ▼

## RUBBER *Injection Molding*

**Precision Mass Production**

We specialize in small precision rubber parts produced by our exclusive injection molding process. Where accuracy and close tolerances are required, call for injection molding. Hundreds of successful installations on hydraulic equipment — automotive machinery — radios and television — refrigeration equipment — pneumatic machinery — valves — electrical equipment. Natural or synthetic rubber. Special compounds made to your specific requirements. Send us your blueprints or specifications for a prompt quotation and suggestions.

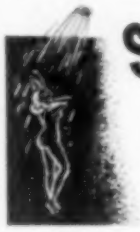
- O-Ring Seals
- Insulators
- Grommets
- Bushings
- Pump Impellers
- Specialized units including rubber-bonded-to-metal

OFFICES: New York • Chicago • Cleveland • Detroit • Milwaukee

Write for Catalog on Injection Molding on Company Letterhead

**MINNESOTA RUBBER & GASKET CO.** 3040 Wooddale Avenue Minneapolis 16, Minn.

▼ REPRINT—Identify by IEN-8627 if you write the maker ▼



## SAFETYMIX

**EXTRA SHOWER SAFETY . . . at no extra cost**

**PROTECTS AGAINST SUDDEN SCALDS**

. . . Safetymix, world's leading pressure-actuated non-scald shower valve gives safety in the shower. Safetymix automatically shuts down flow if either hot or cold water fails.

**HOLDS SHOWER TEMPERATURE CONSTANT**

. . . Even with excessive pressure fluctuations up to 85%, Safetymix still maintains constant discharge temperature.

**LIFETIME SHOWER VALVE**

. . . The most rugged shower control valve made. Only Safetymix has the patented Flow Control Spindle with but one moving part to control all valve functions. Built to last a lifetime.

**GET FREEDOM FROM COSTLY MAINTENANCE**

. . . Safetymix is designed with self-cleaning action to prevent clogging and save water. All parts accessible from the front. As easy to fix as a faucet.

100,000 Installations Can't Be Wrong. Used by U. S. Army, Navy, Merchant Marine, colleges, industrial plants, hotels, clubs, hospitals, apartments and homes.

Send for bulletin and prices.

SAFETYMIX — MADE BY THE MAKERS OF THE NEW SYMMONS TEMPERING-CONTROLLER

**Symmons ENGINEERING COMPANY** 791 TREMONT ST., BOSTON 18, MASS.

▼ REPRINT—Identify by IEN-8628 if you write the maker ▼

## Famous Problem Solvers

*Do you know* that Masonite Hardboards have 28 definite advantages?

*Do you know* that you can saw, sand, bevel, die-cut, rout, drill and shape them?

*Do you know* that these hard, dense and durable panels of "wood made better" come in 19 different types and thicknesses for a thousand uses?

No wonder Masonite Hardboards are solving so many problems in industry. Our engineers will welcome an opportunity to help you.

**MASONITE CORPORATION**
111 W. Washington St., Chicago 2, Ill.

▼ REPRINT—Identify by IEN-8629 if you write the maker ▼

## BRAND NEW! WAR SURPLUS PAINT RESPIRATORS

Regular price $7.95

**ONLY $2.50**

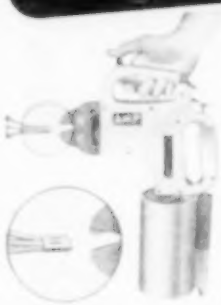
No imperfections. These are Willson No. 711 respirators in original boxes. You receive — Regular Willson No. 711 Double-Cartridge Respirator complete — Ten extra chemical cartridges — Two extra inhalation valve discs — One extra facelet.

**ORDER BY MAIL:** Send check or money order, or we will ship rated firms open account. We pay shipping charges.

**VAN BRUNT SALES CO.**
P.O. BOX 240 NEODESHA, KANSAS

▼ DETAILS—Circle IEN-8630 if you write the maker ▼

## "stub" position crimps are possible with AMP'S NEW PNEUMATIC TOOL



INTERCHANGEABLE HEADS FOR CRIMPING SOLDERLESS TERMINALS ON WIRE SIZES FROM #6 TO #1/0.

This sturdy AMP tool features interchangeable crimping heads for either conventional "side pressure" or novel "end" position crimping, as well as a double set of handles and triggers. A suspension loop enables tool to be supported from above. Air cylinder is constructed of wear-resistant dash-safety factor 300%. Toggle action gives more complete crimping cycle. Operates from standard shop outlets of 85 p.s.i.

AMP — AIRCRAFT-MARINE PRODUCTS INC. 1507 N. 4th Street, Harrisburg, Pa.

U.S. Patents Pending

▼ DETAILS—Circle IEN-8631 if you write the maker ▼

it's here...

## The NEW, REVOLUTIONARY Collapsible "PHIL-BOX"

Collapses from 28⅞" to 9 1/16" in Height

MODEL B 20

The new Phillips collapsible 2000 lb. capacity material handling "Phil-Box" is designed for saving space in storing and transporting bulk materials and parts. Quickly and easily collapsed or erected, the box exterior measures 40" x 27" x 24". The "Phil-Box" has no pins or loose parts. Made of heavy gauge corrugated steel, it is of all welded construction with smooth rolled edges for maximum safety. Can be stacked in collapsed or upright position. Fork lift or pallet truck can enter from all four sides for easy lifting.

Boxes stacked in collapsed position.

Boxes stacked in upright position.

Write for Bulletin E-14

PHILLIPS — MATERIALS HANDLING EQUIPMENT — 2300 JANE STREET · PITTSBURGH 3, PA.

▼ DETAILS—Circle IEN-8633 if you write the maker ▼

## SHEARING . . Machine to cut plastics, paper, equipped with electronic gage

Source: E. P. LAWSON CO. 428 W. 33rd St., New York 1, N. Y.

**Plastic sheets** [illegible]

**The operator** [illegible]

**The work** [illegible]

**Two machine sizes** [illegible]

▼ DETAILS—Circle IEN-8634 if you write the maker ▼

## FOUNDRIES . . Mold smoking torch deposits soot to coat inner surfaces

Source: LINDE AIR PRODUCTS CO. 30 E. 42nd St., Room 308, New York 17, N. Y.

**Blowpipe** [illegible]

**The deposit** [illegible]

*All Makes of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10*

▼ DETAILS—Circle IEN-8635 if you write the maker ▼

## For Every Industrial Need!

VACO BREAK-PROOF SHOCK-PROOF Screw Drivers

UL

Fire Safe Handles

Large or small, square shank or round, extra long or stubby, there IS a Vaco screw driver for every screw used in your plant. Whether it's a regular, Phillips, Reed and Prince, screw holding, clutch head or Allen-hd, Vaco makes 'em all. To find out how Vaco can serve you, write for

FREE 30-Page Catalog

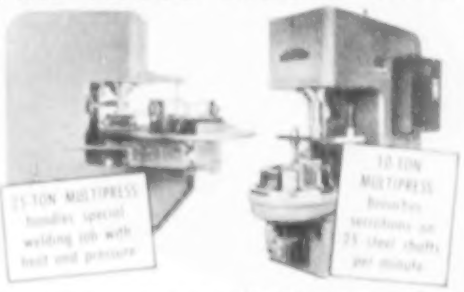
VACO PRODUCTS CO. 317 E. Ontario St. Chicago 11

In Canada: Vaco Products Co., Ltd. 1212 Notre Dame St. W., Montreal 3, Quebec

MORE THAN 250 TYPES AND SIZES

▼ DETAILS—Circle IEN-8636 if you write the maker ▼

## NOW! FAMOUS MULTIPRESS offers safer, smoother oil hydraulic speed and accuracy FOR THOSE BIGGER JOBS




[illegible]

DENISON HydrOILics — The DENISON Engineering Co. 1110 Dublin Rd., Columbus 16, O.

▼ DETAILS—Circle IEN-8637 if you write the maker ▼

MILLERS FALLS TOOLS

## with a velvet touch . . .

## . . . speeds TV production

Power to start and drive self-tapping screws fast . . . but with torque accurately controlled to prevent stripping threads and crushing delicate electronic parts. That is the assignment Millers Falls No. 50 Screw Drivers with patented "Adjustomatic" Clutch are performing on assembly lines for one of America's leading electronics manufacturers. Each day these powerful, super-sensitive tools drive 45,000 nuts and screws – quickly, quietly, efficiently – with torque held within a fraction of an inch pound. Write today for a demonstration on your own work. Dept. P, Millers Falls Company, Greenfield, Mass.

Millers Falls *Super-Sensitive* "ADJUSTOMATIC"® SCREW DRIVERS

▼ DETAILS—Circle IEN-8638 if you write the maker ▼

## *Fast, Clean Handling of Lubricants with* ARO

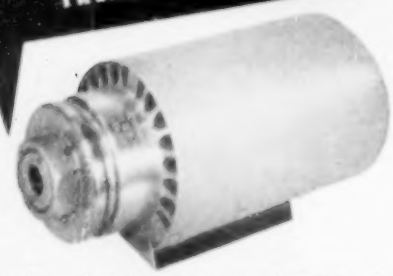
*A complete line* for your needs in specialized lubrication—any type of machinery or equipment. Each Aro unit expertly engineered . . . assures fast, clean handling of lubricants from drum to fitting . . . positive lubrication . . . with less labor, less waste, lower cost! See your Aro Jobber or write . . . The Aro Equipment Corp., Bryan, Ohio.

ARO LUBRICATING EQUIPMENT

FREE!!!—Identify by IEN - 8639 if you write the maker

# EX-CELL-O *Spindles*

**"STEPPED UP PRODUCTION TREMENDOUSLY!"**



That's what an electrical manufacturer says about a group of Ex-Cell-O Precision Spindles he purchased. These were of the high frequency, inbuilt motor type, pictured above. If you use precision grinding spindles send for the Ex-Cell-O Spindle Catalog today—no obligation of course. For a quotation on special spindles just send a sketch with basic dimensions and state the speed and horsepower required.

XLO

**EX-CELL-O CORPORATION**
**DETROIT 32, MICHIGAN**

FREE!!!—Identify by IEN - 8640 if you write the maker

New!...Smaller Size...Same Power Output...Bigger Value!

# SYNCHRON TIMING MOTOR

Newly designed —to cut costs in timing devices of all kinds

Motor has slow speed of 600 R.P.M. Light weight rotor with aluminum spider of large diameter . . . synchronizes instantly at 1/12th revolution. Compact . . . only 1-7/8 in. x 1-5/16 in. Pulls 8 oz. direct load at 1 R.P.M. Self lubricating. Operates efficiently in any position, any required speed—110 or 220 Volts. Available as single motors, or with gear trains as complete timing machines and clock movements.

(T-50)

*If you make or repair timing devices—of any kind—get the facts regarding this motor, and get our prices.*

**HANSEN MANUFACTURING CO., INC.**
**Princeton 2, Indiana**
*Established 1907—A Pioneer in Synchronous Motors*
TIMING MOTORS • TIME MACHINES • CLOCK MOVEMENTS

FREE!!!—Identify by IEN - 8641 if you write the maker

# No More Frozen or Galled STUDS

*(even at 1800 F.!)* Try this Amazing Money Saver...

## *FREE Test Sample* of the NEW FEL-PRO C-5 "HI-TEMP" THREAD COMPOUND

**Eliminates Pitting of Stainless and Alloy Steels at all Temperatures!**

**CUT costly stud breakage, heater dismantling time, pitting of metal surfaces!**

We'd like to send you a free sample of the new Fel-Pro C-5 "Hi-Temp" Thread Compound to try on your toughest thread compound problems, including alloy and stainless steels. Then you can see the astonishing, money-saving results being obtained by the nation's largest refineries, utilities and process industries. Fel-Pro's exclusive Colloidal-Copper formula keeps metal parts separated, regardless of temperatures. Its natural action solves the alloy and stainless steel galling problems. One utility company reports that heater dismantling time has been cut from two days to four hours, by the use of Fel-Pro C-5 "Hi-Temp". Why not see what "Hi-Temp" can do for you . . . get your free sample and complete data sheet—*write today!*

**FELT PRODUCTS MFG. CO.**
1523 Carroll Ave., Chicago 7, Illinois

FREE!!!—Identify by IEN - 8642 if you write the maker

## GRINDING . . Flexible abrasive disc for portable grinders, 7 and 9 inches

Source: BAY STATE ABRASIVE PRODUCTS CO.
10-14 Union St., Westboro, Mass.

**DuraCut** trade names new flexible reinforced resinoid-bonded abrasive disc for application on portable disc grinding machines. The unit is suited particularly to grind down welds, to smooth and finish sheet metal work. Two sizes are 7 and 9 inches. Both are ¼ in. in thickness and are available with straight or raised hub. Recommended maximum speed is 5,500 and 4,500 rpm.

The abrasive is aluminum oxide "A" or silicon carbide "C". Grit sizes are 20 to 180. Grades are J to P. Current backup calls for a rubber pad about the same diameter as the disc, a molded rubber pad and Minerta disc or a metal adapter and Minerta disc which the company can supply as specified.

FREE!!!—Identify by IEN - 8643 if you write the maker

## DRAFTING . . Twelve inch scale to make enlarged drawings, 1 to 8 to 1

Source: LINDLY & CO.
78-82 Herricks Road, Mineola, N. Y.

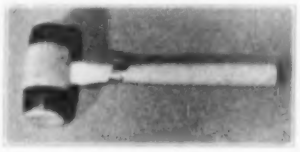
List price is $6.15

Six ratios are carried on the machine-divided graduations on this new triangular-section scale. They are 1, 2, 3, 4, 5 and 8 to 1. One inch is actually one inches on the 2 to 1 face. Color-distinction is achieved based with a tile plastic. Also available is a similar scale laid out in multiples of ten.

FREE!!!—Identify by IEN - 8644 if you write the maker

## MALLET . . Treated wood head in square, round and special shapes

Source: TECHNO EXPORTS
15 Whitehall St., Room 612, New York 4, N. Y.



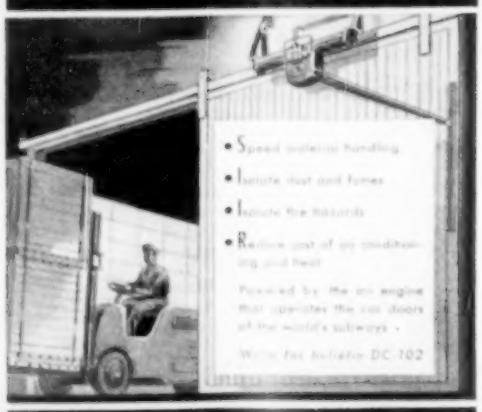
**Lignostone** trade names imported material available through the company in the form of mallets as shown in the illustration. The material is beechwood that has been compressed and impregnated with a synthetic binder for strength and elasticity. The head is made of laminated pieces to prevent cracking. The material is resistant to attack by oil and gasoline.

**Three sizes** of square design weigh about 42 oz., list at $3.55 to $4.40. Five round sizes weigh 12 to 29 oz., list at $2.45 to $3.80. Three sizes of a design known as Cuirass weigh 8 to 21 oz., list at $3.15 to $4.75. The head in the Cuirass design is reinforced with a plastic coated woven harness.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

FREE!!!—Identify by IEN - 8645 if you write the maker

# NP PRE-ENGINEERED *Pneumatic* DOOR OPERATORS




**NATIONAL PNEUMATIC CO., INC.**
Boston • Graybar Bldg., New York • Chicago

FREE!!!—Identify by IEN - 8646 if you write the maker

# *Streamline* your hand labeling with *new* Mystik Self-Stik Labels

**FAST!** Stick instantly, by pressure, without glue, water or heat. Save time, speed production.

**EASY!** Solve tough labeling problems for hard-to-label surfaces or locations.

**PERMANENT!** Won't dry out, curl up or come loose—yet can be removed without a trace.

**BEAUTIFUL!** Printed in any color combination, die cut to any shape. Better labels for every purpose . . . to sell or identify or for instructions.

*For free samples write

CHICAGO SHOW PRINTING CO., 2644 N. Kildare, Chicago 39

FREE!!!—Identify by IEN - 8647 if you write the maker

# Saved up to $11 per man per week and removed a safety hazard

**Edmont**
CASE NO. 217

**Problem:** In electroplating wire products in 120° to 180° chromic acid solutions, expensive unlined rubber gloves proved costly and hazardous because of snagging. Medium weight neoprene coated gloves with fabric base resisted snagging but workmen wore out 2 to 3 pairs per day, costing $8 to $12 per man per week.

**Solution:** Edmont recommended gloves of extra heavy duty NEOX (reinforced neoprene) over fabric base, giving 4 to 5 days' service at cost of only $1 to $1.25 per man per week. Employees greatly prefer this lined glove because it absorbs sweat, is easy to slip off and gives best protection against tearing and flooding with acid. (Full job details on request.)

**THERE IS A "CORRECT" GLOVE FOR YOUR OPERATION. LET US HELP YOU FIND IT.**

As world's largest maker of coated-fabric industrial gloves, Edmont offers a complete line of NEOX (reinforced neoprene), natural rubber and plastic coatings and data on their comparative suitability for your work.

**Make This Free Test:** Send us, on your business letterhead, a brief description of your operation, materials handled and temperature condition. Without cost we will forward samples of the type gloves we recommend, for on-the-job test and report. The cost-saving revealed will surprise you. Address

Edmont Mfg. Co., 518 Orange St., Coshocton, Ohio

**Better Designed for Working Hands:** Note glove shape . . seamless wrinkle surface in the thumb seam to heal, no edges to cut. Note anatomic wide thumb and shaped palm and fingers which give maximum working freedom. This "Edmont" glove has extra heavy duty coating of NEOX (neoprene) given its toughness by special additives. Six sizes. Base material to achieve length gauntlet.

**Flexible Weight NEOX and Plastic Coatings:** More types to fit different operations.

**Grab-it Safety Grip Gloves:** Rough textured natural rubber coating, overall or on palm and fingers only, outwears higher-priced leather, outwears canvas 3 to 10 times and grips firmly wet or dry. Knitwrist, safety cuff or gauntlet.

**MANAGEMENT:** It pays to promote the use of better work gloves—for greater safety and productivity as well as substantial cost-savings to your company or to employees who buy their own.

BREEFITS—Identify by IEN-8649 if you write the maker

BREEFITS—Identify by IEN-8650 if you write the maker

## This Book is Full of Ideas For You:

dozens of actual plant studies of *Resistance Welding* of everything from roller skates to racing cars. Methods, machines, jigs, fixtures, facts, figures are discussed and illustrated. You are welcome to a free copy of this interesting and educational booklet "Resistance Welding at Work" without any obligation whatsoever. Just write to:

SCIAKY
SCIAKY BROS., INC., 4911 W. 67th St., CHICAGO 38, ILL.

BREEFITS—Identify by IEN-8651 if you write the maker

## NEW tool room FURNACE

**Absolute Temperature Control to 850°F by DESPATCH**

SIZES from 13 x 13 x 13 to 37 x 25 x 37

for Tempering, Drawing, Annealing, Solution Heat Treating

Designed for tool room or metallurgical laboratory work this modern, streamlined DESPATCH furnace is sparkle, convenient and flexible. Occupies small space, is easy to operate and gives flow convection that provides absolute temperature control throughout work chamber. All working parts enclosed in attractive floor length cabinet with fully insulated hinged door providing new convenences for all types of heat treating. Available in either electric or gas models.

Write today for Bulletin 831.

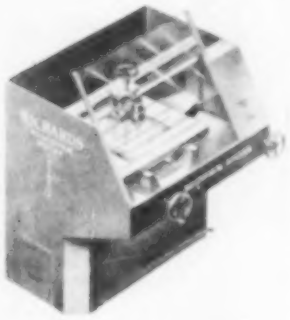
Minneapolis Office 619 S. E. 8th St.
Chicago Office 7072 N. Clark St.

DESPATCH OVEN COMPANY

BREEFITS—Identify by IEN-8652 if you write the maker

## MILLING . . Motor driven router and grinder particularly for patterns

Source: J. A. RICHARDS CO.
907 N. Pitcher St., Kalamazoo 13, Mich.



Match plates and patterns made of aluminum, brass, copper magnesium, plastics, etc. are mined or ground to size near enclosed machine. The motor-driven spindle is vertically adjustable at a handwheel on the head. Longitudinal and cross radial movements are by handwheels at the front of the housing where the operator can work in sound position and watch the cutting action through a transparent guard window.

The table measures 18 by 28 in. (also work measuring to 18 by 28 inches. Floor to table measures 30½ inches. Overall machine dimensions are 44 in. in width, 43 in. in depth, including the handwheels, 62½ in. in height.

BREEFITS—Identify by IEN-8653 if you write the maker

## CONDUCTOR . . Insulated stranded wire sizes from No. 14 AWG to 2,000,000 cm.

Source: CRESCENT INSULATED WIRE & CABLE CO.
317-21 N. Olden Ave., Trenton 5, N. J.

Has excellent moisture resistance

Improved design of the company's Inducto insulated wire and cable as are rated by Underwriters' Laboratories Inc. as Type THWN deg. C. for dry locations and as Type RHW-60 deg. C. for wet locations. Current-carrying capacities in each case are those adopted for NEC.

BREEFITS—Identify by IEN-8654 if you write the maker

## JACK . . Chain and lever assembly for work handling and load binding

Source: CANTON CAST PRODUCTS
2408-12 13th St., N.E., Canton 5, Ohio

New size rating 4,500-lb. pull has been added to the company's Load Binder jacks in which you now have over a capacity range between 2,000 and 30,000 pounds. The lever operates in connection with two swivel-mounted hooks and a clevis to exert pull on the chain either to bind a load or to provide pulling action to move heavy objects, open or close freight car doors, lift heavy objects. The hooks are drop forged. The chain is alloy steel. List price is $2.30 to $13.80.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10*

BREEFITS—Identify by IEN-8655 if you write the maker

## New Method Gives Precise Control in Air Conditioning

**NIAGARA "Controlled Humidity Method" Uses HYGROL, Hygienic Liquid Absorbent**

● This new method gives complete control of temperature and relative humidity, holding constant conditions or carrying them at the will of the user. Especially, it provides dry air at normal atmospheric temperatures with little or no refrigeration required.

The air is filtered and then enters a chamber where it passes thru a spray of "Hygrol" Liquid (a hygienic hygroscopic chemical that absorbs the air-borne moisture and contains no salts or solids to precipitate). In the same chamber, cooling coils remove the latent heat of evaporation and also sensible heat as required.

The absorbent liquid spray falls into a tank at the base. It is piped to a concentrator, removing moisture taken from the air. The re-concentrated liquid returns to the system. This process is continuous, and the apparatus operates always at full capacity.

This equipment is manufactured in units providing from 1000 to 20,000 CFM of conditioned air.

Installations have been made in food and chemical process industries, in packaging hygroscopic products, for preventing condensation of moisture on metals and other products in storage, in air conditioning for laboratory control and for human comfort.

For further information, write Niagara Blower Co., Dept. EN, 405 Lexington Ave., New York 17, N. Y.

BREEFITS—Identify by IEN-8656 if you write the maker

## GET THE Thor STORY

ON PORTABLE ELECTRIC

## IMPACT WRENCHES

*Write for Circular JE-1176*

DRILLS
TAPS
DRIVES SCREWS
SETS NUTS

Ball Grinders, Bench Grinders, Drills, Sanders, Hammers, Impact Wrenches, Nibblers, Nut Setters, Polishers, Sanders, Saws, Screwdrivers

Thor PORTABLE POWER TOOLS

INDEPENDENT PNEUMATIC TOOL CO., AURORA, ILL.

BREEFITS—Identify by IEN-8657 if you write the maker

## Cramer

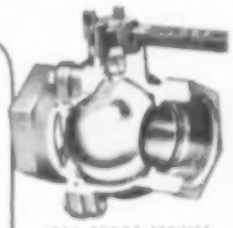
WHERE **TIME** IS A FACTOR OF **CONTROL** IN INDUSTRY

For a wide range of standard timers and controls or special adaptations for specific applications . . . consult . . .

THE R. W. CRAMER COMPANY, INC.
BOX 16, CENTERBROOK • CONNECTICUT

BREEFITS—Identify by IEN-8658 if you write the maker

## Highly Abrasive Materials are no threat to ROCKWOOD Ball VALVES



- LEAK PROOF SERVICE
- FULL ROUND FLOW
- EASY TO OPERATE
- NO MAINTENANCE

*Foreman at Iroquois China Company, Sidney, New York, says "Rockwood Ball Valves are operated 40 times a day handling a mixture of clay and water. Each Valve has performed better, operated easier and lasted longer than any other valve we ever used."*

When using the conventional type valve, the Iroquois China Company found the turbulence created in the valve would add air to the "slip" and cause pin holes in the finished product. Also, the "slip" would accumulate in the bonnet and prevent full opening and tight closing. Rockwood Ball Valves eliminate this trouble. Rockwood Ball Valves are also successfully performing on glaze operations, where a mixture of ground glass and water is used.

A valve with these qualities will give top notch performance in your plant — why not install one today and be convinced.

Available for 300 p.s.i. working pressure in all pipe sizes from ½" to 4".

*Distributors in all principal cities.*

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 5, MASS.

BREVITY—Identify by IEN-8659 if you write the maker

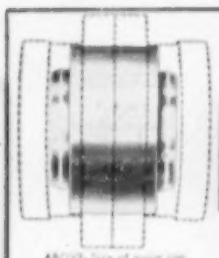
## GREENLEE HYDRAULIC BENDER

FOR QUICK, ACCURATE BENDING OF PIPE UP TO 4½", CONDUIT, TUBING

Saves hours upon hours of conduit or piping installation time. Users report up to 75% labor savings with the GREENLEE Bender . . . and cost of many manufactured bends, fittings, and work of installing them is eliminated. One man operates easily and quickly to produce smooth, accurate bends in rigid pipe up to 4½", rigid and thin-wall conduit, tubing, and box-bars.

Write for facts today. Greenlee Tool Co., 1861 Hebert Ave., Rockford, Illinois.

BREVITY—Identify by IEN-8660 if you write the maker



## 3/5 usual size! 1/2 usual weight!

## NEW Sier-Bath GEAR COUPLING

ONLY 7 PARTS

ABOVE: Size of motor conventional type (averaged an outline) compared with Sier-Bath Gear Coupling of same shaft size.

- **Slashes time and labor costs**—only 7 parts! Assembled, uncoupled in seconds—no special tools, easy to align.
- **Saves design space, weight**—averages only ⅓ the size, ½ the weight of conventional gear couplings of same shaft size.
- **Cuts original costs**—prices lower than conventional gear couplings.
- **Needs less shaft space for assembly**, uncoupling—still fits existing designs, easily replaces old style couplings.
- **Reduces wear on coupled equipment**—less weight, smaller size reduces strain on shafts and bearings.
- **Decreases accidents**—no bolts, nuts, protruding parts—safe as a smooth shaft.

Standard, vertical, mill motor, spacer and floating shaft types—sizes from ¼ to 6, HP 4 to 350. Special sizes and types on request. Send for further information—and/or for coupling (any size up to 2½") for 30 day free trial.

**Sier-Bath GEAR and PUMP CO., Inc.**

Members A.G.M.A. Founded 1905

506 HUDSON BLVD. N. BERGEN, N. J.

BREVITY—Identify by IEN-8661 if you write the maker

## FREE

*Fact-filled 40 page catalog tells how to select right wire rope or chain fitting for your job*

Get your free copy right away. Laughlin's 1145 Catalog Data book is a mine of practical information on wire rope and chain fittings. Complete specifications, helpful tables for engineering designers, riggers, buyers.

**LAUGHLIN**

SEND IN TODAY . . . no cost or obligation

THE THOMAS LAUGHLIN CO., Dept. 11, Portland 8, Maine

Please send Catalog Data Book (145 pp.)

Name

Company

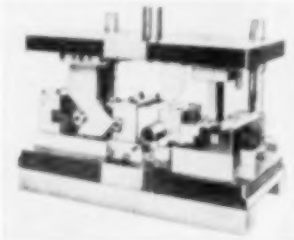
Street

City Zone State

BREVITY—Identify by IEN-8662 if you write the maker

## PRESS TOOLS . . Shear assembly for metal tube to 3 in. in diameter

Source: VOGEL TOOL & DIE CORP. 2525-29 W. McNab St., Chicago 47, Ill.



Shear blades with double cutting edges enter between cutting blocks horizontally and vertically in this new presented assembly. The blocks themselves are interchangeable in the die set for tube of any diameter or shape or wall thickness with outside dimensions equivalent to a 4-in. circle. An adjustable stop determines length that will be cut. The cut is characterized by its freedom from rough edges and from distortion of the tube wall.

BREVITY—Identify by IEN-8663 if you write the maker

## PLASTIC . . Screen reinforced sheet to replace glass for windows and doors

Source: ARVEY CORP. 3460-64 N. Kimball Ave., Chicago 18, Ill.

Samples available upon request

Type 200 W is a new assembly of 4 to 8 mesh aluminum screen, between two sheets of cellulose-acetate plastic to provide a transparent, mechanically strong sheet material for use in the place of glass. It is made in rolls 36 in. in width, can be cut with shears suitable for the screen.

Type 800 CW is a second new assembly employing 14 to 16 mesh galvanized steel wire mesh that is coated with Textile plastic. It is available in 28 and 36-in. widths in rolls and also can be cut with screen shears. The Textile is transparent and fills the openings in the mesh to make a weatherproof sheet that is strong and shatterproof.

BREVITY—Identify by IEN-8664 if you write the maker

## FILTERING . . Pipe line unit for hydraulic lines carrying 3,000 lb.

Source: WATERMAN ENGINEERING CO. 719-23 Custer Ave., Evanston, Ill.

Micronic line strainer now fitted with Dry Seal pipe threads to apply to a ⅜-in. line carrying hydraulic oil at pressure to 3,000 pounds. The unit measures 2⅞ by 3½ in. overall and includes a spring-positioned sintered-wire filter element. This element will stop particles measuring .49 microns or larger with pressure drop at 25 lb. when SAE-20 oil flow rate is 30 gpm., and the element is clean. Single units list at $30. Lots of 100 are $5.40 per unit.



BREVITY—Identify by IEN-8665 if you write the maker

## CUT PAINTING COSTS Right Down the Line—

WITH *Gold Stripe* BRUSHES!

Paint brushes are tools, too! And quality tools do the best job—last longer—take more effort—cost less in the long run. That's why you should use Pittsburgh *Gold Stripe* brushes.

From bristle end of top-grade, pure bristle to tip of fine hardwood handle, they're designed by master craftsmen to take job-rated conditions. Lace Seven jacket keeps brushes straight, true and clean longer.

*See your supplier* or contact nearest Pittsburgh branch warehouse for information and prices. PITTSBURGH PAINT, GLASS CO., *Brush Div.* Dept. M, 5,321 Penn Ave., Pittsburgh 24, Pa.

PITTSBURGH *Gold Stripe* BRUSHES

BRUSHES · PAINT · GLASS · CHEMICALS · PLASTICS

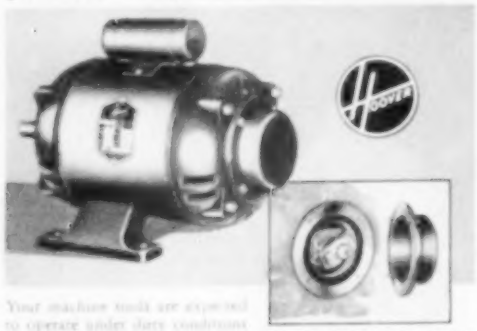
PITTSBURGH PLATE GLASS COMPANY

BREVITY—Identify by IEN-8666 if you write the maker

# HOOVER

## ELECTRIC MOTORS

## give your reputation a clean start!



Your machine tools are expected to operate under dirty conditions that may prevent a motor from even starting. That's why so many manufacturers power their products with Hoover Motors. Hoover 1 and 1½ H.P. Motors get going on cue, for Hoover's starting switch is enclosed in an external switch housing that keeps out trouble-making dirt. So specify Hoover, to give your equipment *AND* your reputation a clean start!

"HOOVER" NEW NAME FOR K-C MOTORS

Motors made by Kingston-Conley Division of The Hoover Company have long been known as "K-C Motors." In the future, they'll be called "Hoover Motors." Their famous quality continues as high as ever—outstanding in the industry.

THE HOOVER COMPANY
North Canton, Ohio
Kingston-Conley Division
76 Knox Ave., North Plainfield, N. J.

BREVITY—Identify by IEN-8667 if you write the maker

## JABSCO SELF PRIMING PUMPS

the pump with the DUPONT NEOPRENE impeller

BRONZE, STAINLESS STEEL & IRON CONSTRUCTION —CAPACITY TO 50 GALLONS PER MINUTE

1. MORE CAPACITY—for its weight, size and price
2. SELF-PRIMING—starts instantly with high suction lift
3. ONE MOVING PART—tough, long-lived
4. GEARLESS—impeller instantly stated gently
5. TROUBLE FREE—simple construction
6. ECONOMICAL—low cost—low maintenance

LIQUID TRANSFER AND CIRCULATING FOR ALL INDUSTRIES

**JABSCO PUMP COMPANY**

2031 N. Lincoln Street • Burbank, California

BREVITY—Identify by IEN-8668 if you write the maker

## MAXIM SNOW THROWERS

PAY THEIR OWN WAY

Where snow removal is a major item, the greater efficiency of Maxim Snow Throwers shows up quickly in cost savings. These self propelled rotary snow throwers clean down to the surface, whirl the snow away and leave no built-up banks. Thoroughly winter-proved by hundreds of users from Coast to Coast. Available in 7, 2 H.P., 4½ H.P. and 9 H.P. models.

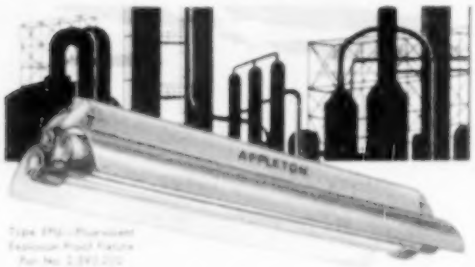
SEND THIS COUPON FOR DETAILED INFORMATION

THE MAXIM SILENCER COMPANY
71 Homestead Ave., Hartford 1, Connecticut

Name

Address

▼ FREE!!!—Details by IEN-8669 if you write the maker ▼




Type EFU—Fluorescent Explosion Proof Fixture Pat. No. 2,392,225

Type EVX—Vented Explosion Proof Fixture Pat. Applied For

## Two Famous APPLETON "FIRSTS"

With the Type EFU Fluorescent Fixture, Appleton introduced the advantages of fluorescent lighting to the hazardous locations of industry. This fixture is easily installed, conveniently serviced. It may be hung horizontally or at an angle of forty-five degrees.

The Type EVX is the first and only Vented Explosion Proof Lighting Fixture. Featuring porous metal cylinders, this fixture weighs thirty percent less than fixtures of similar performance rating, yet diffuses one percent more light while operating at substantially reduced temperatures.

Sold Through Electrical Wholesalers.

**APPLETON ELECTRIC COMPANY**
1716 Wellington Ave. • Chicago 13, Illinois
Branch Offices and Resident Representatives in All Principal Markets

**APPLETON**
CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES
EXPLOSION PROOF FITTINGS • RESLITES

▼ FREE!!!—Details by IEN-8670 if you write the maker ▼

## This Divining Rod Talks to Searchers ...prompted by DPi HIGH VACUUM

*For locating and measuring leaks wherever pressure or vacuum is used*

THE CONSOLIDATED MODEL 24-101A
## LEAK DETECTOR

TO prove absence of any leak, or to detect, locate and measure rate of leakage in pressure or high vacuum systems, glass to metal seals in electronic equipment, valves, welded or soldered joints—these are only a few of many uses for this versatile instrument.

Employing helium gas and the mass spectrometer principle, this highly sensitive machine responds to leak rates, from atmosphere into an evacuated system, as low as $10^{-8}$ cubic centimeters per second.

Ruggedly built and mounted on casters for portability, the unit can be moved anywhere for testing systems by "probe" or "envelope" methods—or hooked direct to pumped gas lines.

Both visual and audible indications are standard features on the Model 24-101A.

**SEND FOR FREE BULLETIN**

16-page bulletin describes the many features of the Consolidated Model 24-101A Leak Detector, explains applications and methods, and gives complete specifications. For your free copy write

DPi

VACUUM EQUIPMENT DEPARTMENT
**DISTILLATION PRODUCTS *industries***
761 Ridge Road West, Rochester 3, N. Y.
DIVISION OF EASTMAN KODAK COMPANY

▼ FREE!!!—Details by IEN-8672 if you write the maker ▼

## LUBRICATING . . Cylinder oil feeder delivers from lubricator to steam line

Source: SHARVANIA OIL & GREASE CORP
1187-87 Tulley St., Memphis 7, Tenn.

New design is introduced by the company for its Lubro-O-Matic feeder which supplies Sharvania Aspirin, an Short Cylinder Lubricant, also manufactured by the company, to lubricate the cylinders of steam-driven equipment. The new design represents improvement over the unit previously described. It incorporates operating principle to insure the same.

**Application** is to a steam main with a nozzle from the feeder extending into the main. An opening upstream back around the nozzle to a tube inside approach to a shaped condenser on the top of the assembly. Steam from the main condenses here to provide a supply of free water accumulated to return. The oil coming from the lubricator connection is flow tight and mixes with it in the form of fog into the steam.

▼ FREE!!!—Details by IEN-8673 if you write the maker ▼

## WATER TREATING . . Sterilizer employs ultra-violet tube radiation

Source: SEPCO CORPORATION
858-62 Cross St., Pottstown, Pa.

Connects into line

**Harmful bacteria** are destroyed by the ultraviolet radiation from four tubes mounted vertically in the stainless steel cylindrical housing of this new sterilizer. The unit has capacity to purify 400 gph, without adding taste or odor to the water. Inlet near the bottom and outlet near the top both measure ¾ inch. The outlet has a flow meter and a pressure valve.

**The tubes** are designed for operation by a transformer mounted in a compartment on the top of the housing with connection to a 110 volt 50 cycle a.c. line. The operating circuit also contains the solenoid valve so it will stand open and perfect flow only when the tube circuit is closed. Overall dimensions are 12 by 11 inches.

▼ FREE!!!—Details by IEN-8674 if you write the maker ▼

## GAGE . . Micrometer presents numbers in windows for reading

Source: CENTRAL TOOL CO.
454-58 Wellington Ave., Cranston, R. I.

**Eight units** insert on a new line of micrometer anvils in which the thimble carries windows where numbers appear to assist in quick reading. Two with polished frames have 0 to 1 and 1 to 2 in. equivalents. Six others with knurled frames start at 0 to 1 in., are numbered at 5 to 6 inches. Read from the thimble.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50*

▼ FREE!!!—Details by IEN-8675 if you write the maker ▼

Join the hundreds of top companies who are "smart" about their business with uniforms of Reeves Army Twill, Sanforized and vat-dyed in colors fast to sun, water and perspiration. Reeves Army Twill stays new-looking *and last longer* even after repeated washings. Write today for information for your business.

**REEVES BROTHERS, INC.**
54 WORTH ST., NEW YORK 13, N. Y.

▼ FREE!!!—Details by IEN-8676 if you write the maker ▼

## *Now!* Vapor level controlled by thermostat

Precision thermostats will multiply performance of unusual dual function for the Cub hot vapor degreaser—a product of the Circo Products Company.

These precision thermostats not only control the temperature of the fluid in the degreasers, they concurrently control the vapor line level. This latter function has never before been performed by a thermostat and is made possible because of the uniquely quick and sensitive response of THERMOSWITCH units. As a result, vapor level control has been greatly simplified.

Thermoswitch® Thermostats are unique. Used in a wide variety of ways throughout industry, they can be put to work for you.

FENWAL INCORPORATED
79 Pleasant Street, Ashland, Mass.
Temperature Control Engineers

**Fenwal**

**THERMOSWITCH®**
The Precision, Multi-Purpose, Industrial Thermostat
SENSITIVE . . . *but only to heat*

▼ FREE!!!—Details by IEN-8677 if you write the maker ▼

## Make STANLEY your hinge source!

You just specify the hinge you want—Stanley does the rest, from first sketch to finished product.

Stanley gives you the advantage of expert designers and production engineers—complete research and tool making facilities—the particular plating and finish best suited to your needs.

As the world's largest producer of hinges, Stanley is geared for efficient production to meet your requirements. Write for full information—not only on special hinges but drawings and stampings as well—now!

PRESSED METAL DIVISION . . . THE STANLEY WORKS, New Britain, Conn.
New York • Chicago • Detroit
San Francisco • Los Angeles • Seattle

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

▼ FREE!!!—Details by IEN-8678 if you write the maker ▼

## *Ready-Made Steel Buildings to fully meet your needs for a*

Single structure

or a complete plant

● Truscon has available, for prompt shipment and erection by your own organization, a wide value of basic standard buildings to meet your immediate manufacturing and storage needs. These standard units, prefabricated from steel in quantities, are ready to erect, beginning for many purposes. Features include fire resistance, permanence, ease and speed of erection, low upkeep, low cost and high investment value. They can be customized and extended quickly and easily on any one of many additions.

FREE BOOK! Shows actual installations and machine details to help you develop your plant.

TRUSCON STEEL COMPANY • Youngstown 1, Ohio
Subsidiary of Republic Steel Corporation

**TRUSCON** STANDARDIZED STEEL BUILDINGS

▼ BREVITY—Identify by IEN - 8679 if you write the maker ▼

Taking On The Tough Ones

Some folks claim it doesn't pay to take on a lot of out-of-the-ordinary jobs—say it costs too much in time and tooling.

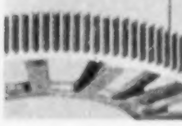
Not us.

We've found that a good job of problem solving gives our customers even greater confidence in our ability to master their many gear requirements.

Besides, over a period of many years, this policy has enabled us to build a stock of over 45,000 gear patterns, a wide assortment of cutters and hobs and a wealth of valuable experience. Fact of the matter is, with our present facilities, *really* out-of-the-ordinary jobs are not out-of-the-ordinary for us.

So, send us your problems, no matter how tough. We'll tackle them. THE EARLE GEAR & MACHINE CO., 4707 Stenton Ave., Phila. 44, Pa.

It's good business to do business with EARLE.

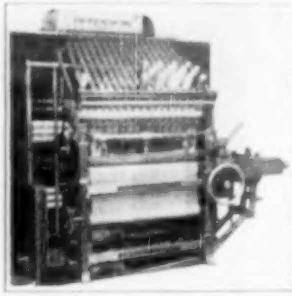


EARLE GEARS

▼ BREVITY—Identify by IEN - 8682 if you write the maker ▼

## KNITTING . . Variable speed machine mounts ten needles per inch of width

Source: JOHN EPPLER MACHINE WORKS
200 Buttonwood St., Philadelphia 23, Pa.



**New design** in the company's Flat Upright knitting machine is available in material widths to 80 and to 90 inches. Fabrics can be produced in full widths or in multiple strips of any width to the machine's capacity. Standard gage is ten needles to the inch, each being inserted in a standard needle stock bar where it is clamped in place. Each latch needle takes an individual warp thread and the entire bed of needles operates as a unit. Different materials to make the fabrics, as well as the warp threads, are run from individual spools to permit quick individual setup for samples or to make a production run or to change colors. The finished work resembles a woven fabric with a pleasing raised appearance.

**Speed** is adjustable between 20 and 200 rpm. at the motor drive so action can be stepped up for narrow patterns or down for wide ones. One side motion takes the place of the previous two for pattern change in the slide bars. Pattern pin combinations are now made on one pin. The side motion contains a positive turning and locking action of the monitor which supports the pattern chain. The monitor assembly is guided and moved in an adjustable V-channel in arrangement similar to that guiding the needle bar.

▼ BREVITY—Identify by IEN - 8685 if you write the maker ▼

Not cut...Not cast...

but Precision FORGED

by AMGEARS!*

Yes! Now you can get precision forged-tooth spurs, bevels, sprockets and clutches! Amgears is supplying precision forged gears from 3 diametrical pitch to approximately 10 diametrical pitch, operating up to 600 rpm. and 800 fpm. pitch line velocity.

**Send blueprints or specifications** giving shaft speeds, horsepower, center distances and gear ratios. We'll tell you promptly what Amgears can do to save you money and eliminate gear failures.

*AM... Accurately Made

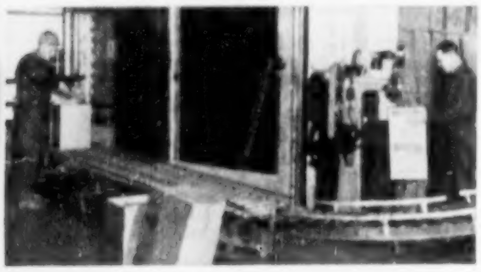
**Also: Production and Precision Cut and Ground Gears**

Spurs, sprockets, helicals, worms and wormgears, straight and spiral bevel gears and racks. Write for helpful CASE HISTORIES!

AMGEARS, INC.
6633 West 65th St., Chicago 38, Ill.
POrtsmouth 7-2100

AMGEARS, INC.
CHICAGO 38, ILLINOIS
A SUBSIDIARY OF HUFF CORPORATION
CONTRACT MANUFACTURERS
Detroit • Cleveland • Chicago

▼ BREVITY—Identify by IEN - 8680 if you write the maker ▼



"PACKAGING COSTS CUT 40%," reports grease and oil company when Bostitch method replaced silicate for bottoming and top-sealing corrugated boxes. Note Bostitch bottomer in action at right of conveyor. Bostitch Autoclench Stapler, at left, seals cartons on the inside entirely from the outside. Entire packaging operation was speeded up about 50%, no waiting for adhesive to set.

# How Big a Saving

*would look good in your shipping room?*

Bostitch stapling machines ... hammers, tackers, pliers, top sealers, bottomers, etc. ... more than 800 in all ... match the speed of production-line assembly methods. With the right Bostitch combination you, too, can speed up your packaging and shipping operations, cut labor and material costs, protect against pilferage and damage in shipping. *Investigate* profit-boosting Bostitch methods and machines. Mail the coupon below ... today.

**50% TIME SAVED** fastening plywood sides to 2 x 4 frames of aircraft crates for overseas shipment when Bostitch P4 stapling hammers replaced hammer and nails.

**NEATER, MORE SECURE PACKAGE** obtained by auto parts stores when Bostitch P4 stapling plier replaced gummed tape which wouldn't stick to dusty cartons.

ATTACH THIS COUPON TO YOUR LETTERHEAD

BOSTITCH, 468 Mechanic Street, Westerly, Rhode Island

Please send me:

- Bulletin Pkg. 218 about Bostitch Autoclench for top-sealing
- Bulletin Pkg. 229 on Bostitch Box Bottom Stitchers
- Bulletin Pkg. 103 on Bostitch Self Feeding Hammers

Name ______ Title ______

Firm ______

Address ______

City ______ Zone ______ State ______

BOSTITCH
fastens it better, and faster, with wire

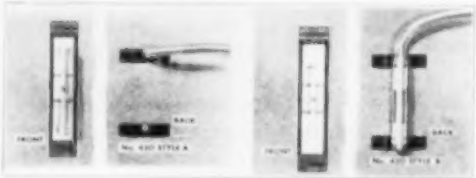
ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

Trade Mark "Bostitch" Registered U.S. Patent Office and Foreign Countries

▼ BREVITY—Identify by IEN - 8683 if you write the maker ▼

## GAGE . . Rotameter float design reads pressure drop through air filter

Source: F. W. DWYER MFG. CO.
315-19 S. Western Ave., Chicago 12, Ill.




**Visi-Float** trade names new float gage for assembly on the upstream side of an installation of filter panels in a dust-collecting or air-cleaning installation in which a blower is employed for air movement through the filters by suction pressure. The top of the tapered tube carrying the indicating float is connected by a run of plastic tube to the downstream or suction side of the filter by passing the tube through the filter or a hole in the supporting frame.

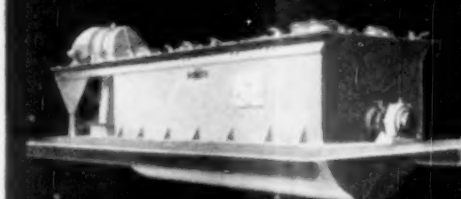
**Green pointers** are set at the float position when the blower is operating and the filter is clean. Red pointers further up on the tube indicate when the filter should be cleaned or replaced. Two types are available as illustrated.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BREVITY—Identify by IEN - 8684 if you write the maker ▼

CUSTOM BUILT MIXERS

. . . by Sprout-Waldron



• A Type and Size to Meet Your Individual Requirements

At high capacities, structural design and adequate power become critical factors. We are daily matching customers' requirements for handling foods, dyes, plastics, and chemicals — up to 500 cu. ft.

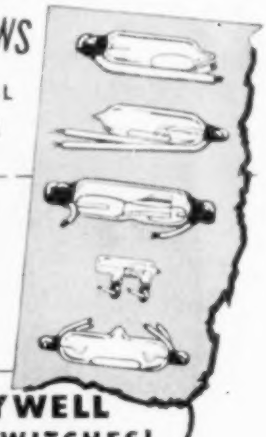
Let us consult with you.

SPROUT-WALDRON & COMPANY
*Manufacturing Engineers*
5 WALDRON STREET MUNCY, PA.

▼ BREVITY—Identify by IEN - 8686 if you write the maker ▼

HERE'S REAL NEWS FOR ELECTRICAL MANUFACTURERS!

LOWER PRICES



for HONEYWELL MERCURY SWITCHES!

Greater mass production of the most popular sizes in the Honeywell Mercury Switch line results in amazingly low prices to you. Prices are set for quantities of 100 and up. Ratings are from 1 to 15 amps. All leads are 7-inch, double cotton covered (or the switches are available without leads, at even lower prices).

Write for specifications and prices ... or for immediate action, call the Honeywell branch office nearest you. MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 1156 Wayne Ave., Phila. 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

Honeywell
MERCURY SWITCHES

▼ BREVITY—Identify by IEN - 8687 if you write the maker ▼

LEIMAN AIR PUMPS

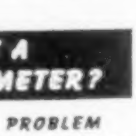
Air supplied by a LEIMAN AIR PUMP is forced through this gas meter in measured amounts for accurate calibration. Ruggedly constructed to withstand varied climatic conditions, these meters are constantly tested for leaks at each stage of assembly. A LEIMAN AIR PUMP provides a steady, smooth stream of air pressure for these operations.

WHO WANTS A LEAKY GAS METER?

A LEIMAN AIR PUMP SOLVES THE PROBLEM

Millions of consumers and the gas industry demand gas meters that are accurate and safe ... meters that will perform dependably for a minimum of seven years. Superior Meter Co., builders of precision gas meters, use air pressure supplied by a LEIMAN AIR PUMP for fine calibration and leak testing ... just one of hundreds of applications for a wide variety of services.

If you design, build, sell or use machines or equipment ... consider how AIR POWER will improve their efficiency. If the operation calls for lifting, holding, mixing, blowing, separating, etc. of sheets or pieces or parts of paper, plastics, fibre, leather, cloth, wood, light metal, etc. ... AIR POWER furnished by a LEIMAN AIR PUMP may be the best solution.



A LEIMAN AIR PUMP is efficient and economical to operate ... the wings take up their own wear ... no packing or parts to replace ... no maintenance other than occasional lubrication. **Write for new 16 page catalog.**

LEIMAN BROS., INC., 166-J Christie St., Newark 5, N. J.

AIR MOTORS • GAS BOOSTERS • DUST COLLECTORS • SAND BLASTS

▼ BREVITY—Identify by IEN - 8688 if you write the maker ▼

# Nylon Elastic Stop Nut Offers Extra Reusability

A new nylon collar insert now expands the reusability of ESNA Elastic Stop Nuts to more than 200 on-off cycles.

This increased reusability range permits designers to specify the standard fiber insert Elastic Stop Nut for all normal assemblies that may require five, eight, ten, or more re-uses, of Elastic Stop Nuts with the new nylon insert for assemblies that may require frequent disassembly and reassembly. Built in one piece with a locking insert collar, both the standard Elastic Stop Nuts and the new nylon insert Elastic Stop Nuts are applied to studs or to fit with standard nut runners. The fatigue-free Elastic Collar grips threads, and holds where it's set, regardless of vibration or impact.

On machine tools, household appliances, portable tools, automotive and railroad equipment, Elastic Stop Nuts every day solve fastening problems created by the effects of vibration. In addition, Elastic Stop Nuts solve problems of: (1) prestressing bolts for proper load distribution (2) setting and maintaining proper spring-loaded adjustments (3) protecting bolt threads against corrosion (4) providing the feature of reusability—without major design changes.

For a free bulletin on the uses of Elastic Stop Nuts write to Elastic Stop Nut Corp. of America, Union, N. J.

▼ BREVITY—Identify by IEN - 8689 if you write the maker ▼


CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . models for various purposes.

SOLD AT A LOW COST

. . . and the cost is especially low because it pays for itself many times . . . saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

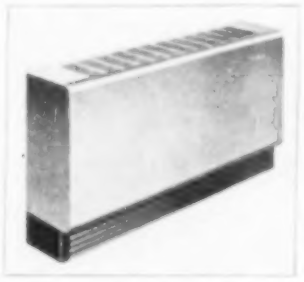
Be sure to write for illustrated literature and prices.

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI


▼ BREVITY—Identify by IEN - 8691 if you write the maker ▼

## HEATING . . Blower equipped housing with coil for heating, cooling or both

Source: MODINE MFG. CO.
1724 Racine St., Racine, Wis.



Five sizes are included in a new line of space heating and cooling equipment to employ steam, hot water, cold water from suitable sources. Each enclosure has double-suction centrifugal blowers with belt-connected motor, air deflectors, the coil and inlet and exit grilles. Capacities range from 120 to 640 sq. ft. of equivalent radiation based on 2 lb. steam and 60 deg. F. entering air. Installation can be made at the floor, on a wall, in or under a ceiling surface or floor.

**Bulletin 550**, 16 pages, illustrates and details the new space unit; includes tables of capacities, dimension diagrams, typical cabinet and specifications.

▼ BREVITY—Identify by IEN - 8692 if you write the maker ▼

## LIGHTING . . Fluorescent lamp 20 and 40 watts, mellow white light

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., P. O. Box 868, Pittsburgh 30, Pa.

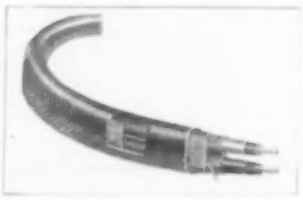
For applications that require favorable color

New phosphor is employed in a line of fluorescent lamps that supplements the company's previously developed standard cool white and standard warm white units. The phosphor produces a balanced color spectrum. The light is flattering to human complexions, fabrics and foods. Designations are designed white and deluxe warm white. Diameter is 1½ inches.

▼ BREVITY—Identify by IEN - 8693 if you write the maker ▼

## CONDUCTOR . . Electric cable, non-metallic sheath over paper barrier

Source: NATIONAL ELECTRIC PRODUCTS CORP.
Chamber of Comm. Bldg., 13th Fl., Pittsburgh 19, Pa.

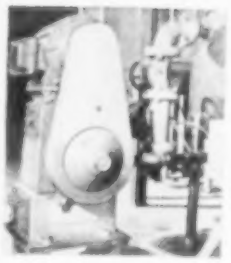


New design of the company's "Canvas-Back" housewire, a non-metallic sheathed cable employs a finish that will not become tacky in handling or in storage and that assists in installation. Also a new paper barrier is employed inside the sheath. The barrier adheres to the sheath when it is stripped to leave the conductors clean with markings distinct. The cable is available in No. 14 and No. 12 sizes with Type-T or Type-B conductor insulation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 8694 if you write the maker ▼


HIGH VACUUM PUMPS for PROFITABLE OPERATION



High vacuum processing necessitates vacuum pumping equipment to provide the low pressures required for efficient and profitable operation.

Stokes high vacuum "Microvac" Pumps provide the necessary low pressures . . . they combine simplicity of design, high volumetric efficiency, low power consumption, and lowest operating costs. Easily installed with low upkeep and maintenance.

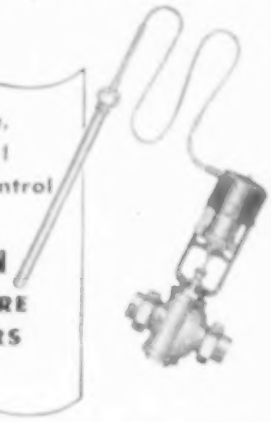
F. J. STOKES MACHINE CO.
5928 TABOR ROAD
PHILADELPHIA 20, PA.

FJS

F. J. STOKES MACHINE COMPANY


▼ BREVITY—Identify by IEN - 8695 if you write the maker ▼


For accurate, economical temperature control



SYLPHON TEMPERATURE REGULATORS

Regulator No. 923 (pictured) is just one of the Sylphon line of dependable regulators. It's ideal for controlling temperature of bottle washers, glue kettles, dryers, open and closed tanks and for other processing operations. Self-powered, self-contained. Rugged and long-lasting. Graduated indicating scale. Available with dial-indicating thermometer (923-T). Catalog RN-B gives full information. Send for it today.

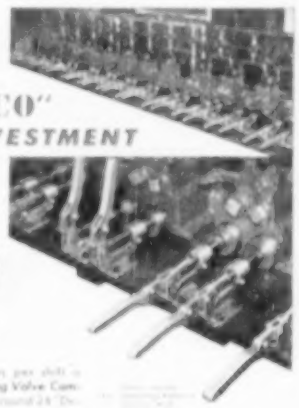
FULTON SYLPHON DIVISION

ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 4, TENN.

Temperature Controls • Valves Devices • Valves Assemblies


▼ BREVITY—Identify by IEN - 8696 if you write the maker ▼


$100 "DE-STA-CO" CLAMP INVESTMENT



saves over $5000 each shift per year

A saving of 12 man-hours per shift is reported by Fast Operating Valve Company with the Fixture built around 24 "De-Sta-Co" Model #420 Toggle Clamps.

The Fixture holds Four 4-Way air automatic valves during 9 hour operation. The clamp plungers are tipped with rubber gaskets which seal cylinder and stroke parts during the "cycle" after which the valves are first down and inspected carefully. Because the actual seating of valves, these "De-Sta-Co" Toggle Clamps succeed in reducing rejects, job is done quickly and consistently performed by less highly skilled labor.

For your problem in production, assembly, fixturing, there's a "De-Sta-Co" Toggle Clamp that insures increased efficiency, accuracy and savings whether you're welding, gluing, forming, inspecting or assembling, you do it better . . . and cheaper . . . with "De-Sta-Co" Toggle Clamps. Our catalog describes more than 40 fixture and production models, holding capacities over 2500 lbs. Write for your copy today, with name of nearest "De-Sta-Co" distributor.

DETROIT STAMPING COMPANY
341 MIDLAND AVENUE
DETROIT 3, MICHIGAN


▼ BREVITY—Identify by IEN - 8697 if you write the maker ▼


The COP . . . Gets You Off to a Good Start

Sylvania's COP starter is unconditionally the finest you can buy. Here's proof: The COP is the only cut-out starter employing twin-wire bimetal contacts in the 40-watt size . . . a construction that assures extra starting speed, extra reliability, extra satisfaction. This manually reset starter also insures you against such unpleasant effects of burned out lamps as excessive starter wear and ballast burn-outs . . . because the COP takes a failing lamp out of circuit at once.

The COP uses up no power while keeping an open circuit . . . and the circuit stays open until the starter is manually reset. Made by the manufacturers of the finest fluorescent lighting, the Sylvania COP (Cut-Out Premium) Starter is the result of years of know-how! Get full details about it now. Find out, too, about our complete line of lampholders for every lamp size! Sylvania Electric Products Inc., Advertising Dept. L-9809, New York 10, N. Y.

SYLVANIA ELECTRIC

FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES, SIGN TUBING; LIGHT BULBS; PHOTOLAMPS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

▼ BREEFITS—Identify by IEN-8698 if you write the maker ▼

around the world, it's

# HOOVER BALLS

made of

CHROME STEEL • CARBON STEEL • STAINLESS STEEL BRASS • BRONZE AND MONEL METAL

*"America's Foremost Ball Manufacturer"*

**HOOVER BALL and BEARING CO.**
**Ann Arbor, Michigan**

▼ BREEFITS—Identify by IEN-8699 if you write the maker ▼

FOR **QUIET TELEPHONING**

**—ANYWHERE**

**USE A BURGESS-MANNING ACOUSTI-BOOTH**

Thick walls of sound-absorbing material soak up noise. You can hear easily . . . talk comfortably in noisy surroundings. Suited to any location. Modern in appearance. Wall and floor models.

**ALSO**
- Stores
- Bus Terminals
- Banks
- Offices

MAIL COUPON FOR FREE BULLETIN

BURGESS-MANNING COMPANY
743-A East Park Avenue, Libertyville, Illinois

Please send booklet describing Burgess-Manning Acousti-Booths.

Name

Firm Name

Street — City

▼ BREEFITS—Identify by IEN-8700 if you write the maker ▼

**a flashlight finish makes news**

**But . . .** a hospital—even the smallest—needn't take such a chance! It costs so little to install modern emergency lighting service—a Fairbanks-Morse generating set!

These performance-proved generators are available in capacities from 500 to 35,000 watts, A. C.

Get the facts about Fairbanks-Morse generating sets for standby use in theaters, stores, fire and police departments, schools, churches, institutions, from your local dealer or mail the coupon today.

**FAIRBANKS-MORSE**
*a name worth remembering*

Diesel Locomotives and Engines • Electrical Machinery • Pumps • Scales • Home Water Service and Heating Equipment • Rail Cars • Farm Machinery

Fairbanks, Morse & Co.
600 S. Michigan Ave., Chicago 5, Ill.

Please send complete information about Fairbanks-Morse generating sets for standby service.

Name

Address

City State

▼ BREEFITS—Identify by IEN-8701 if you write the maker ▼

## CONNECTOR . . Electric swivel unit for two, three or four-wire circuits

Source: ROBBOY ELECTRIC MFG. CO.
2060-64 E. 70th St., Cleveland 3, Ohio

**Insulated plates** in the upper and lower sections of this new Hubbell swivel connector are fitted with ring-type spring contacts and with connecting copper sleeves to take incoming and outgoing circuit wires. The pieces are stamped in the ring-type forming so one side remains stationary while the other is free to rotate. A knurled connecting collar in the center maintains the assembly.

**Rating** is 990 watts at 220 volts. Dimensions are about 1⅞ by 1⅞ in. for the two-wire unit, 1⅞ by 1⅞ for the three-wire assembly and 2 by 2 in. for the four-wire design. Mounting threads are ⅝ to ¾ in. pipe or machine. The contact rings are made of bronze or beryllium copper. Bodies can be specified in aluminum, brass, stainless steel to meet requirements.

▼ BREEFITS—Identify by IEN-8702 if you write the maker ▼

## THERMOCOUPLE . . Immersion design for use in molten metal to 3,200 deg. F.

Source: WHEELCO INSTRUMENTS CO.
845-9 W. Harrison St., Chicago 7, Ill.

**Particularly for steel casting**

**The element** in this new thermocouple is a 27 gage platinum platinum 18 percent rhodium and with provision for adjustment within its protecting tube. Application can be made with any make of pyrometer to obtain a reading within a half minute after immersion.

▼ BREEFITS—Identify by IEN-8703 if you write the maker ▼

## LAYOUT . . Surveying instrument to set points at right angles to line

Source: STRATEX INSTRUMENT CO.
1861E Hillhurst, Los Angeles 27, Calif.

**Wasatch Pentaprism** is a new surveying instrument in which a Pentaprism is carried in a metal mount measuring 4½ in. in height by 1 in. in diameter. Backsight alignment is by two pair of vee sights at 90 deg. with each other. These sights are aimed at a known station and then the observer looks downward to the prism. The foresight will appear there at exactly 90 degrees. List price is $22.50.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50*

▼ BREEFITS—Identify by IEN-8704 if you write the maker ▼

HERE'S YOUR *Complete* STEAM PLANT

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4 pass design provides long ft of heating surface per h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability • 42 sizes from 20 to 800 h.p. for pressures up to 250 p.s.i. or for hot water heating.

**Superior STEAM GENERATOR**

SUPERIOR COMBUSTION INDUSTRIES, Inc.
Executive Offices: Empire State Building, New York 10, N. Y.

▼ BREEFITS—Identify by IEN-8705 if you write the maker ▼

## N & F BINS REDUCE HANDLING COST

This photograph shows a group of Neff & Fry Bins used in a coal handling operation. The coal is dumped into a pit, elevated to the bins, withdrawn by gravity. Manual labor is virtually eliminated. What's more, the material is kept off the ground and out of the weather.

N & F Bins, built of Super-Concrete Staves with encircling steel rods, have the stamina to withstand maximum stresses. The staves are formed under great hydraulic pressure, giving them rocklike density and high compression strength. Heavy superstructures are mounted upon the bins without extra supports.

Thousands of N & F Bins have remained intact for decades, used for handling and storing many kinds of flowable bulk materials—coal, grain, seeds, peanuts, minerals, chemicals, sand, wood chips, clay, etc.

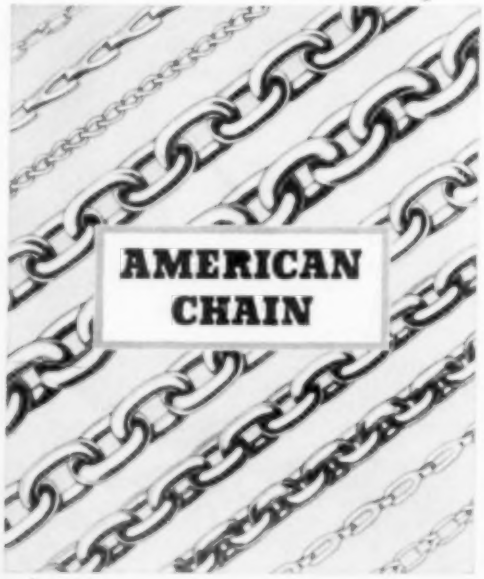
Don't decide upon storage facilities before getting all the facts about N & F Super-Concrete Stave Bins. Ask for a copy of our catalog containing full information and numerous photographs of installations.

THE NEFF & FRY COMPANY
EAST CENTRAL AVENUE, CAMDEN, OHIO

**NEFF & FRY** STORAGE BINS

▼ BREEFITS—Identify by IEN-8706 if you write the maker ▼

*the most important Question about Chain:* **WHO MAKES IT?...**




*Whether you buy chain for your own use* or as part of your product, you want to know that it is good, strong, dependable, high quality chain. And the best way to be sure of that is to know who made it.

Nothing will ever lower the quality of ACCO Welded Chain, Weldless Chain, or Attachments. Our research department is constantly endeavoring to improve the quality of American Chain, thereby increasing its service to the user.

**Buy AMERICAN**
*. . . the complete chain line*

ACCO York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

**AMERICAN CHAIN DIVISION**
**AMERICAN CHAIN & CABLE**
*In Business for Your Safety*

▼ BREEZE—Heads to IEN-8708 if you write the maker ▼

## HARD RUBBER FILTERS

**THE ANSWER TO THE ELIMINATION OF METALLIC PICKUP & FOR USE WHERE LIQUID TO METAL CONTACT IS OBJECTIONABLE**

**ERTEL MODEL EUR**
"Ask for Catalog No. 18"

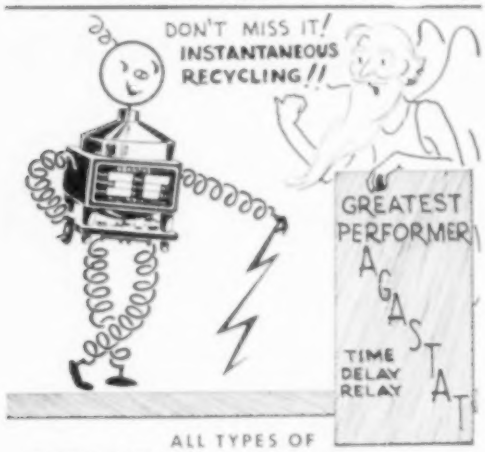
Capacities 10 dak to 100 dak units with range from 5 to 35 gpm. Air gauge to contact with liquid on high grade hard rubber. Special hard rubber construction breakage of filter sheets and provide positive seal without gaskets.

**ERTEL ENGINEERING CORPORATION**
KINGSTON NEW YORK

Representatives in Principal Cities

MANUFACTURERS OF HIGH GRADE ERTEL ASBESTOS FILTER SHEETS
ASBESTOS SHEET FILTERS • CYLINDER TYPE DISC FILTERS
PYROGEN FILTERS • VACUUM BOTTLE FILLERS • MIXERS • CAPPERS
CENTRIFUGAL AND SELF-PRIMING STAINLESS STEEL PUMPS

▼ BREEZE—Heads to IEN-8709 if you write the maker ▼




ALL TYPES OF
**AGASTAT TIME DELAY RELAYS**
recycle instantly! In the type 1 the delay starts when the control circuit is closed; in the type 2 it starts when the control circuit is open.

*Information and literature on request.*

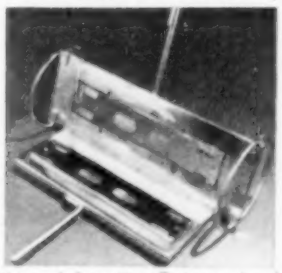
AGA AGA AGA AGA

AMERICAN GAS ACCUMULATOR COMPANY
1027 NEWARK AVENUE • ELIZABETH 3, N. J.

▼ BREEZE—Heads to IEN-8710 if you write the maker ▼

## CUT SPRAY PAINTING COSTS
### SPEED UP PRODUCTION

One color after another can be accurately wet painted on many concave, convex or irregularly shaped three dimensional plastic parts by using



**ELECTRO-FORMED METAL MASKS**
(Made by Patented Process)

Clean, sharply defined letters and decorative effects are obtained on intricately designed emblems, toys, nameplates, horn buttons and household appliance utility markings, etc. No fogged edges. Avoids after-wiping or buffing off of overspray. The "loose" inside of letters and numerals, such as "O" and "6", is held in position by arched bridging to effect perfect characters without objectionable "ties".
Can be fitted to fixtures on production lines. Used in production of hundreds of nationally known products.

Send Coupon Today

**CONFORMING MATRIX CORPORATION**
330 TOLEDO FACTORIES BUILDING • TOLEDO 2, OHIO

I am interested in metal masking shields
Please send without obligation
( ) further information; ( ) quotation on masks for parts (or prints) which I am forwarding

NAME
FIRM
STREET
CITY & STATE

▼ BREEZE—Heads to IEN-8711 if you write the maker ▼

## PACKAGING . . Vacuum filling machine for acids, alkalis into bottles to 5 pt.

Source: MRM CO.
189-93 Berry St., Brooklyn 11, N. Y.

**Corrosive liquid** to be filled into bottles is fed into hopper from drums for gravity into a 12 gal. Pyrex tank at the rear. This tank is equipped with a two gal. float valve to control the fluid level. It also contains an overflow so that excess valve leaks of Teflon plastic. Polyethylene supply tubes feed to six Teflon spouts on a rail at the head of the machine. A lever valve and valves then cut to retract or insert the spouts in a set of bottles advanced to a station (from a conveyor) on cycle.

**Vacuum is established** in the filling zone, the bottles and a Pyrex overflow tank at the rear by a Pyrex ejector (or vacuum pump) mounted on the side of the housing. This vacuum draws fluid into the bottles until they are filled. The operator watches the gauge and shuts off the flow by breaking the vacuum when he raises the rail to disengage the filled bottles and replace a new supply. For maximum operation of the average fills of 1 pint, 30 bottles per minute.

▼ BREEZE—Heads to IEN-8712 if you write the maker ▼

## WOOD WORKING . . Tilting arbor saw 8 in. blade cuts square to 2¾ in.

Source: EMERICK INC.
1722-6 Clinton St., Kalamazoo, Mich.

**Knife Saw** (not shown) can be fitted over the blade on which the sound, ball bearing arbor is mounted in a horizontal supported, ball bearing carriage. It also mounts a ball bearing belt-connected, ½ hp motor to operate on 110-volt, single-phase ac. The carriage assembles beneath is 20 by 24 in. Table equipped with a miter gage, cutoff stop and rip fence.

**The blade** can be adjusted vertically in the table for desired depth of cut and can be set square or at an angle to 45 degrees. The table is made of pressed steel and is assembled on structural steel legs. List with motor is about $70.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZE—Heads to IEN-8713 if you write the maker ▼

▼ BREEZE—Heads to IEN-8714 if you write the maker ▼

## HILCO for Lubricating, Fuel and Industrial Oil Purifying . . To save oil, equipment and money

There is a HILCO unit available for every type of oil purifying problem.

Air compressors
Airplane engines
Automatic welding units
Automobiles
Buses, Trucks, Tractors
Circuit breakers
Diesel engines
Fuel oil
Gasoline engines
Heat treating
Hydraulic presses
Locomotives — Diesel
Machine tool cutting oil
Paper mills
Quenching
Transformers
Steam engines and turbines
Tool cutting oils
Vacuum pumps
Wire drawing machines

*When oil is used it becomes contaminated and a HILCO will clean it. Tell us about your oil purification problems. FREE literature will show you how to solve them.*

**THE HILLIARD CORPORATION**
35 WEST FOURTH ST., ELMIRA, N. Y.

Offices in Principal Cities — In Canada: UPTON-BRADEEN (JAMES) LTD. 300 Bay, Toronto, 1001 Park Ave., Montreal

▼ BREEZE—Heads to IEN-8715 if you write the maker ▼

## Speed Up Industrial Waste Disposal

● Remove industrial waste fast with Koehring 205. A reliable high production unit in a small package, the Koehring 205 is the ideal excavator for the industrial plant. Half-yard shovel capacity. 15,500 lbs. lifting capacity (75% rating). Easily convertible from shovel to lift crane, pull shovel, or dragline. Contact your Koehring distributor today.

**KOEHRING 205**
**KOEHRING COMPANY, Milwaukee 10, Wis.**

▼ BREEZE—Heads to IEN-8716 if you write the maker ▼

## STOP...! FLOOR MAINTENANCE COSTS with EMERI-CRETE FLOORING

Vanishing maintenance costs and EMERI-CRETE FLOORING go hand in hand! Made only with diamond-hard CORTLAND EMERY AGGREGATE, cement and water — and easily laid by your maintenance department or accredited local contractors — EMERI-CRETE FLOORING actually improves with use—is practically indestructible and is ideal for new heavy-duty floors or re-surfacing old ones. In addition, non-skid EMERI-CRETE FLOORING helps speed movement of traffic, reduces wear and tear on equipment, and cuts accidents.

*Write for our FREE Proof-Positive Folder No. 501. Read how plants in every industry are enjoying years of maintenance-free service. Lists users, many installations.*

Walter Maguire Co., Inc., Dept. IN-9
60 East 42nd St., New York 17, N. Y.
Name
Title
Company
Address
City Zone State

EMERI-CRETE FLOORING

BREVITY—Identify by IEN - 8717 if you write the maker

# Deming
## CONDENSATION RETURN UNITS

Units are designed to take care of water of up to about 190° F. in temperature and boiler pressures up to 100 lbs. per square inch. Higher temperatures can be handled by elevating the receiver above the pump.

The extensive Deming line includes units with float control, units with make-up water valve, and units with various types of standard Deming centrifugal, centrifugal jet, "Turbo-Flo," and reciprocating pumps.

Deming Condensation Return and Boiler Feed Pumps are illustrated and explained in BULLETIN CR-1-B. Write for FREE copy.

**THE DEMING COMPANY**
521 BROADWAY • SALEM, OHIO

**DEMING** THE COMPLETE LINE
**PUMPS AND WATER SYSTEMS**

BREVITY—Identify by IEN - 8718 if you write the maker

## VULCAN HAS NO EQUAL

### IN QUALITY CONSTRUCTION

All steel units guaranteed for 450 PSI and to be fabricated from seamless steel pressure tube A.S.T.M. Spec. A-83.

Fins, imbedded by special Vulcan process become integral with tube, insuring better heat transfer ... are guaranteed to remain tight under conventional operating conditions.

### IN EASE OF INSTALLATION

Vulcan is light in weight, easy to handle on the job ... requires few fittings and supports ... comes cut to desired length.

### IN APPEARANCE

Neatly designed front covers, corner and end pieces for complete modern looking, dependable operating installation.

SEND TODAY FOR ILLUSTRATED BULLETIN

FOR 25 YEARS A LEADER IN FIN-TUBE RADIATION

**THE VULCAN RADIATOR CO.**
**26 FRANCIS AVENUE, HARTFORD 6, CONN.**

BREVITY—Identify by IEN - 8719 if you write the maker

MINNEAPOLIS-MOLINE MODERN MACHINERY

# HEAVY-DUTY

FOR ALL TYPES OF EQUIPMENT

Where heavy-duty, dependable power is required, competent manufacturers select MM Industrial Power Units for economical installations. Equipment buyers prefer MM powered units for their low cost maintenance and complete parts service.

MM features include full pressure lubrication, large capacity oil filters, dirt proof seals, controlled cooling, and the extra margin of strength built into each vital part.

Get complete facts on MM Industrial Power Units.

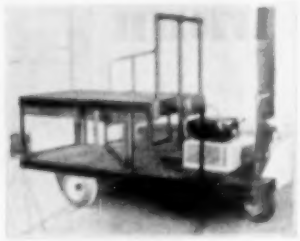
6 SIZES
25 to
250 h. p.

**MINNEAPOLIS-MOLINE**
**MINNEAPOLIS 1, MINNESOTA**

BREVITY—Identify by IEN - 8720 if you write the maker

## TRUCK . . Engine drive platform unit, double deck design, 1 and 1½ ton

Source: KALAMAZOO MFG. CO.
1825-29 Reed St., Kalamazoo, Mich.



**New assembly** of the Model 2000 and Model 3000 platform trucks includes a double deck as shown in the illustration for general transportation of merchandise, parts, supplies about a plant. The truck is driven by a 10-hp. air-cooled gasoline engine under the operator's seat. There are two speeds forward and two in reverse to a maximum of 15 mph.

**The truck measures** 92 in. in overall length, 42 in. in width and has a 60 in. wheelbase. Turning radius is 65 inches. Loading space measures 45 sq. ft. with the two decks as compared to 20 sq. ft. for the single deck arrangement.

BREVITY—Identify by IEN - 8721 if you write the maker

## HEATING . . Electric hot plate, thermostat control, 150 to 600 deg. F.

Source: CENTRAL SCIENTIFIC CO.
1702 Irving Park Road, Chicago 13, Ill.

**Calrod element** is cast into the 6-in. iron top of this new No. 10650 hot plate. The top is mounted on a stainless steel housing which encloses an adjustable thermostat. Operation is on 115 volts. Power input rating is 1000 watts. The thermostat opens the heating circuit when predetermined temperature is reached, closes when temperature falls.

BREVITY—Identify by IEN - 8722 if you write the maker

## DRIVE . . Specification sprockets in desired sizes with alloy iron rims

Source: JEFFREY MFG. CO.
914 N. 4th St., Columbus 16, Ohio

**Ni-Hard** alloy iron can be specified in a new line of sprockets available only to order in specified sizes and chain style and pitch. The alloy iron is cast into the sprocket rim so it forms an integral part to provide strength, toughness and ability to resist abrasion.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 8723 if you write the maker

*Announcing A New* LOW COST *Ball Bearing for Your*

# LINEAR MOTIONS

THE COMMERCIAL GRADE SERIES B

# BALL BUSHING

Sliding linear motions are nearly always troublesome. Thousands of progressive engineers have solved this problem by application of the Precision Series A Ball Bushing.

The low-cost Commercial Grade Series B bearing is now added to the Ball Bushing line and offered to original equipment manufacturers. This ball bearing has been developed for support of linear motions in competitively priced, volume produced products where super precision is not essential. Alert designers can now make tremendous improvements in their products by using Ball Bushings on guide rods, reciprocating shafts, push-pull actions, or for support of any mechanism that is moved or shifted in a straight line.

Competition is returning. Up-to-date engineering can be important to you!

NEW ITS NOW AVAILABLE

LOW FRICTION • ELIMINATE BINDING AND CHATTER • SOLVES SLIDING LUBRICATION PROBLEMS • LASTING ALIGNMENT • LOW MAINTENANCE • LONG LIFE

**THOMSON INDUSTRIES, INC.** MANHASSET NEW YORK

PROGRESSIVE MANUFACTURERS USE BALL BUSHINGS TO MEANS IMPROVEMENT AT A MINOR COST

BREVITY—Identify by IEN - 8724 if you write the maker

*new sensational* **FLEX-A-FOAM**
— FILTER MASK —

Easier to breathe through and talk through than an ordinary handkerchief . . yet filters non-toxic nuisance dusts as small as 1/25000 of an inch!

- Extremely light in weight — only 1 ounce complete.
- Self-adjusting to every face size.
- Simple in design with only 4 interlocking parts.

SAMPLE **$1.50** POST PAID

**Dust protection your workers will welcome and WEAR!**

*Write TODAY for descriptive circular*

**THE GOGGLE PARTS COMPANY**
1468-70 W. 9th St. • Cleveland 13, Ohio

BREVITY—Identify by IEN - 8725 if you write the maker

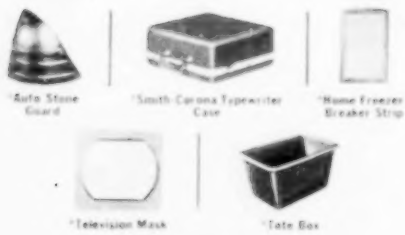
## *FUNCTIONAL, DECORATIVE THERMOPLASTIC*

There is literally no end to the uses of U. S. Royalite, the thermoplastic that dozens of manufacturers use for a wide variety of products.

This remarkable material opens up new design possibilities—either in designing new products, or improving your present product.

CHECK ROYALITE'S ADVANTAGES:

| IT IS | IT CAN BE | IT IS AVAILABLE |
|---|---|---|
| Tough | Sawed—Sheared | Stiff or Flexible |
| Friendly to Touch | Sanded—Punched | Hard or Soft |
| Quiet and Warm | Nailed | Coarse or Fine Grained |
| Relatively Light | Bolted—Riveted | Deep Grained or Shallow |
| Shatterproof | Sewed | Thick 1/2" to Thin 1/32" |
| Shockproof | Screwed into | Glossy or Dull |
| Acid Resistant | Cemented | Decorated or Plain |
| Excellent Dielectrically | Buffed—Polished | Bright or Sombre Colors |



*Auto Stone Guard — *Smith-Corona Typewriter Case — *Home Freezer Breaker Strip — *Television Mask — *Tote Box

us. Royalite

**UNITED STATES RUBBER COMPANY**
2638 North Pulaski Road, Chicago 39, Illinois

▼ BREVITY—Identify by IEN-8727 if you write the maker ▼

# SUPER-SPACER

***for quick, accurate indexing and exact location of work.***

Saves expensive setup time on short or long runs. Ideal for milling, drilling, grinding, planing, slotting, and other operations. Pays for itself over and over. Write for information now!

**HARTFORD Special**

THE HARTFORD SPECIAL MACHINERY CO.
HARTFORD 5, CONN.

▼ BREVITY—Identify by IEN-8728 if you write the maker ▼

*Bowling Pad made of Royalite for Brunswick-Balke-Collender Co., Inc.*

**CONSULT THESE EXPERIENCED FABRICATORS OF ROYALITE**

CALIFORNIA

COLORADO

CONNECTICUT

GEORGIA

ILLINOIS

INDIANA

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MASSACHUSETTS

MICHIGAN

MINNESOTA

MISSOURI

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TEXAS

WASHINGTON

WISCONSIN

The United States Rubber Company at 2638 North Pulaski Road, Chicago, Illinois, has complete Engineering, Designing, and Styling Departments to assist fabricators on the technique to employ, and in the art of fabricating most efficiently with ROYALITE

▼ BREVITY—Identify by IEN-8730 if you write the maker ▼

## MAR PROOFING . . Self-adhering tape protects surfaces of stainless steel

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier St., St. Paul 6, Minn.

**No-Mar No. 342** is a new Scotch protective tape available in 100-yd. rolls measuring 12, 24, 30 in. in width, or other width to specification. One face is the white paper backing on which patterns can be drawn in identification markings. The other face carries a rubbery protective adhesive film that adheres to a metal surface on contact with it.

**The tape** protects stainless-steel sheets during fabrication in press dies and with various types of other bending and forming equipment. It continues to protect in storage prior to final assembly or shipment. It removes from the surface without leaving any residue or stain.

▼ BREVITY—Identify by IEN-8731 if you write the maker ▼

## ETCHING . . Alkaline compound to etch aluminum without sludge deposit

Source: PENNSYLVANIA SALT MFG. CO.
1002 Widener Bldg., Philadelphia 7, Pa.

**Ask company for titration chart**

**Pennsalt AE-18** is a new concentrated alkaline compound that will etch aluminum without forming any hard sludge deposits on the bottom of the etching tank. The material is packaged in 300-lb. non-returnable drums. It is employed in concentrations of 5 to 7 oz. per gallon of water at 140 to 150 deg. F. Work is immersed for 30 sec. to 10 min. depending on the desired degree of etching. Immersion is followed by rinse or spray with clear water.

▼ BREVITY—Identify by IEN-8732 if you write the maker ▼

## CASTER . . Saucer type swivel unit moves easily over a rough floor surface

Source: BASSICK CO.
36-40 Austin St., Bridgeport 2, Conn.

**R-300** is a new swivel caster measuring $3\frac{1}{4}$ in. in overall height and equipped with a 1-in. wheel that is pivoted to roll at an extreme angle as shown in the illustration. The design results in quick free swivel to move in any direction, an ability to climb out of deep floor depressions, to roll over objects on the floor without binding.

**Two sizes** differ only in the top plate dimensions of $2\frac{3}{4}$ by $2\frac{3}{4}$ in. and $1\frac{7}{8}$ by $2\frac{3}{8}$ inches. Plate and wheel are made of steel. The wheel is case hardened. The design is intended for relatively light loads on equipment such as dollies, racks.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BREVITY—Identify by IEN-8733 if you write the maker ▼

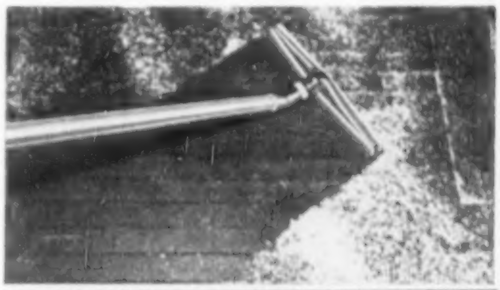
▼ BREVITY—Identify by IEN-8734 if you write the maker ▼

## SAFEWAY . . . a new and rugged light weight chain hoist

**Designed** to keep pace with today's demands for greater efficiency in materials handling, this new Wright hoist is light in weight, high speed, compact, strong, easy to service, long lived. Capacities from ¼ to 4 tons. Load chains of steel—heat treated—proof-tested—have high wearing qualities and high safety factor against possible impact loads. Weldments of projection type. Load wheel reversible. Weston type brake resistant to high temperatures; cold, wet and dusty atmosphere. Send for bulletin DH-164.

**WRIGHT HOIST DIVISION**
American Chain & Cable
York, Pa.

▼ BREVITY—Identify by IEN-8735 if you write the maker ▼



**METALS RECLAIMED WITH VACUUM**

In this plant large quantities of magnesium chips are collected from the floor and lathes every few hours. Fire hazards are reduced, and the reclaimed material pays for the Spencer equipment in a few months. If necessary the Spencer System can be arranged so that the materials are immediately deposited under water as a double precaution against fire hazards.

Spencer is also used for removing or conveying liquids, fumes, powders and hot materials.

356-K

**150 USES FOR VACUUM . . . ASK FOR BULLETIN**
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

▼ BREVITY—Identify by IEN-8736 if you write the maker ▼

**Don't Let DIRT • CHIPS • WATER ruin your Air Tools and Equipment**

3 Newly Designed Products give you low cost protection

Any air system will function more efficiently with less maintenance with clean air. Now you can be assured of clean air for your air tools, air cylinders, and equipment—air free from corrosive water, rust, scale, dust, dirt, chips, smudge. Now you can l-e-n-g-t-h-e-n tool life, and operate more efficiently. Schrader offers three improved devices for your air line, a filter, a strainer, and a combination filter and trap.

Ⓐ **NEW AIR LINE FILTER**—New filter element cleans air, traps moisture. Install ahead of every unit in system.

Ⓑ **IMPROVED AIR LINE STRAINER**—Strains out rust, scale, chips. Easy to clean.

Ⓒ **NEW AIR LINE FILTER AND WATER TRAP**—A high capacity element for removal of dirt, scale, rust, and moisture from air without restricting air flow. May be converted to permanent drain line. Can be serviced without disturbing any connections. Two air outlets.

Write for more information and literature about Schrader Air Filters, Air Strainers and Combination Air Filter and Water Trap. For information about hundreds of other Schrader Products . . . Air Line Fittings, Air Cylinders, Valves, Press Controls, etc., ask for complete 72-page catalog.

Schrader PRODUCTS CONTROL THE AIR

**A. SCHRADER'S SON**
476 Vanderbilt Ave., Brooklyn 17, N. Y.
*Division of Scovill Manufacturing Company, Incorporated*

FREE IT—Identify by IEN - 8737 if you write the maker

The Lyons Chronometric Hand Tachometer is designed to provide exceptionally precise measurement of constant rotary and linear speeds.

Produced in two types, 0 to 1000 RPM and 0 to 10000 RPM, graduated in 1/5 RPM and 2 RPM subdivisions respectively, the Lyons has an overspeed allowance of 100%, is durable and entirely trustworthy.

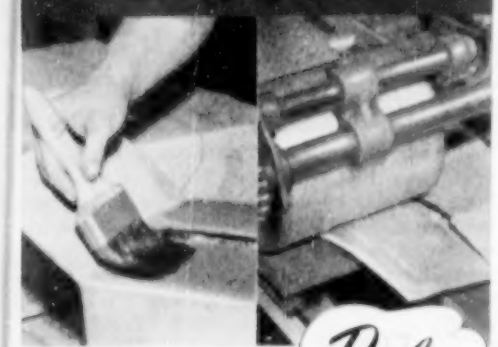
**BOULIN INSTRUMENT CORPORATION**

PORTABLE AND STATIONARY CENTRIFUGAL TACHOMETERS
PORTABLE CHRONOMETRIC AND STROBOSCOPIC TACHOMETERS

65 MADISON AVENUE, NEW YORK, N. Y.

FREE IT—Identify by IEN - 8738 if you write the maker

# Seal CASES IN 20 SECONDS!



Paisley SUPERIOR ADHESIVE

**BOXEAL** is the new *fast setting* Shipping Case Glue which tears fibres 15 to 20 seconds after application by brush or machine. Brings new high speed and efficiency to all production lines where short pressure time is essential. BOXEAL permanently seals all types of shipping boxes, corrugated, Fourdrinier kraft, jute, solid fibre. Non-toxic, odorless, stainless, and most of all . . . FAST SEALING!

Get our complete laboratory report on Paisley BOXEAL and take advantage of the offer to send a trial 5 gallon shipment at the 55 gal. drum price available to all drum users of shipping case glues. We'll ship ON APPROVAL, F.O.B. our nearest plant, New York or Chicago. Fill in the coupon below, attach it to your letterhead, and mail it to us TODAY.

FILL IN & MAIL COUPON NOW FOR GENEROUS TRIAL OFFER

Gentlemen: Please send complete information about Paisley BOXEAL Shipping Case Glue.

☐ You may send, on approval, trial 5 gal. shipment of "BOXEAL" at 55 gal. drum price.

☐ Send me a copy of Laboratory Report on "BOXEAL"

FIRM _____

STREET _____ CITY _____

BUYER _____

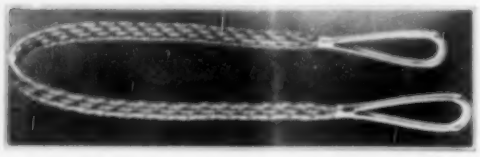
**PAISLEY PRODUCTS INCORPORATED**

Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1370 CANALPORT AVE., CHICAGO 18, ILL. • PHONE CANAL 6-2219
630 W. 51st STREET, NEW YORK 19, N.Y. • PHONE COLUMBUS 5-2646

FREE IT—Identify by IEN - 8740 if you write the maker

## HANDLING . . Wire rope sling, flat woven design, to specification

Source: MACWHYTE CO.
2934 14th Ave., Kenosha, Wis.



**New sling** is known as the company's Dyne 11-Part Type 147T, Flat-Braided design. It is made of a single endless wire rope to present a relatively wide flat bearing surface. The sling ends terminate in loops which are fitted with the company's Crescent thimbles. Application is in a basket hitch with the sling encircling the load and the two loop eyes on the crane hook in standard arrangement.

FREE IT—Identify by IEN - 8741 if you write the maker

## INSULATING . . Sectional covering for breechings, pipe, furnace, stills

Source: PHILIP CAREY MFG. CO.
Carey St., Cincinnati 15, Ohio

**Tempchek cement points up joints**

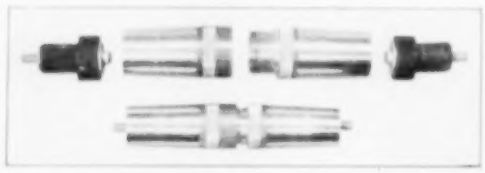
**Tempchek** is a new combination of diatomaceous silicate, asbestos, and a binding agent molded into flat and curved bricks. The material is suited for use in temperatures to 1,700 deg. F. It can be cut and shaped to fit over irregular areas and around projections. It has true values to make tight joints. The materials are chemically inert. They will not irritate the skin of applicators or start corrosion. They are shock resistant, will not disintegrate in the service range.

**Recommended application** is 7 in. in thickness, when used alone, for temperature to 1,500 deg. F. A thickness of 4 in. with a 3 in. upper layer of 85 per cent magnesia will insulate in a range between 1,250 and 1,300 deg. F.

FREE IT—Identify by IEN - 8742 if you write the maker

## FASTENING . . Threaded connector for rod or tube sections in long line

Source: MINIT-JOINT CO.
113-17 S. Lafayette Blvd., South Bend 1, Ind.

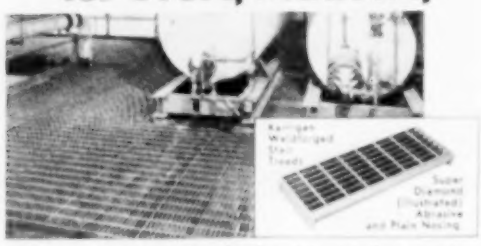


**Five sizes** measure ⅛ to ⅞ in. based on the inside diameter of this new aluminum screw-type connector. A ½-in. rod or tube can be press fitted into the bore of the ½-in. unit or a rubber compression element can be supplied to grip in the bore and present a threaded stud. Overall length assembled is 4 inches. Components are illustrated.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 59*

FREE IT—Identify by IEN - 8743 if you write the maker

# A SAFER, OPEN STEEL STRONGER FLOOR for every industry




You get an extra margin of safety with Kerrigan Weldforged steel flooring and stair treads. Continuous spiral cross bars, slightly above bearing bars and alternating right and left twist on tick spacing from bars are Weldforged into bearing bars to form a one-piece unit of great strength.

For safety, strength, maximum light and ventilation, easy installation and maintenance, always specify Kerrigan Weldforged grating and stair treads. Its uses are many, indoors and outdoors: flooring, stair treads, sidewalks, doors, catwalks, subway grating . . . to name only a few.

*Send today for latest catalog — Write Dept. 22*

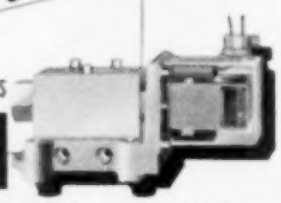
Weldforged GRATING DIVISION

**KERRIGAN IRON WORKS, INC.**
NASHVILLE, TENNESSEE
GENERAL SALES OFFICE: 274 MADISON AVE., N.Y.C.

FREE IT—Identify by IEN - 8744 if you write the maker

# NEW INEXPENSIVE

High Cycle SOLENOID VALVES



⅛" and ¼" sizes up to 300 cycles per minute

## . . for air to 125 P. S. I. — or vacuum also low pressure hydraulic service

● These valves combine the utmost simplicity in design with rugged construction. They will give millions of cycles of highly satisfactory and efficient trouble-free service. Small solenoids, with short strokes, work against the valve plunger eliminating levers, links and pins. Low amperage requirement eliminates intermediate relays and simplifies electrical control circuits. Side or bottom pipe connections, 2, 3, 4 and 5-way actions.

*Write for Data Sheet No. 1741.*

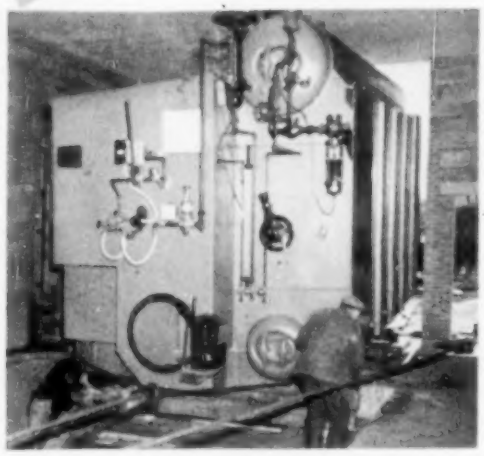
C. B. HUNT & SON, Inc., 1953 E. Pershing St., Salem, Ohio

*"The Higher the Pressure — The Tighter the Seal"*

**Quick-As-Wink**
AIR AND HYDRAULIC CONTROL VALVES

FREE IT—Identify by IEN - 8745 if you write the maker

# LOOK what's here!



## Popular B&W Integral-Furnace Boiler Design *NOW AVAILABLE* in cost-saving shop-assembled unit

**Now**, for the first time . . . all the inherent advantages of "packaged" boilers, *plus* the traditional economies of B&W Integral-Furnace construction, are combined in a new factory-assembled water-tube unit. It's the B&W Integral-Furnace Boiler, Type FM — delivered fully equipped for quick installation and operation.

**A modern development** of the original B&W Integral-Furnace Boiler, this new unit embodies the experience gained through engineering and building over 100 million lb. per hr. of installed steam capacity to the same basic design.

**For small and medium size plants**, institutional and commercial establishments, this new Type FM self-contained unit supplies all the answers to lowest-cost heating and process steam requirements from 5,000 to 35,000 lb. per hr. at pressures to 250 psi. Large plants, too, may find several Type FM boilers to be more economical than a "tailor-made" installation.

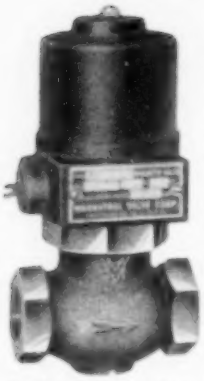
**Send for** bulletin G-72, detailing the many cost-saving advantages of this new B&W creation in low-cost steam generation. The Babcock & Wilcox Company, 85 Liberty Street, New York 6, N. Y.

*Helping Industry Cut Steam Costs Since 1867*

BABCOCK & WILCOX

▼ BREEFITS—directly to IEN-8747 if you write the maker ▼

# MAGNATROL SOLONOID VALVES for AUTOMATIC DEPENDABLE FLOW CONTROL



You get automatic — dependable — accurate control of liquids or gases with Magnatrol Valves. You can quickly install these electro-magnetic valves for use in conjunction with . . . thermostats, pressurestats, float switches, time switches, etc. You can use them with manually operated switches to obtain remote control. Ease of access makes maintenance simple.

Available in normally closed or normally open models. Pressure ranges from zero up to 300 PSI. A. C. to 575 volts, 25, 50 or 60 cycles. D. C. to 250 volts.

**FREE CATALOG!** Write today, attention *E. W. Brockman* for complete literature containing specifications, sizes and dimensions.

**MAGNATROL VALVE CORP.**
HACKENSACK 3, NEW JERSEY

▼ BREEFITS—directly to IEN-8748 if you write the maker ▼

EMERITE FLOORS

RESISTS ABRASION

RESISTS HIGH HEAT

**. . . the most permanent FLOORING known to INDUSTRY**

Flash-Stone EMERITE FLOORING is the only complete Emery Stone concrete assembly-package in the entire field. Equally suited for restoration of old concrete floors or new constructions. Recommended for areas subjected to punishing contacts or aggressive agents.

WRITE FOR INFORMATIVE LITERATURE

**FLASH-STONE COMPANY, INC.**
ERIE AND PULASKI AVES., PHILA. 40, PA.

▼ BREEFITS—directly to IEN-8749 if you write the maker ▼

*Amazing*
# FLASH BOX OPENER
**Opens Any Carton Quicker . . . Cleaner**

Exclusive patented-blade holder adjustable to varying thicknesses of carton covers.

**THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:**

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts cleanly to permit re-use • Prevents accidents • Saves time • Eliminates fatigue. *Already accepted by leading industries.*

Retail Price
**$1.75**

**FLASH BOX OPENER CO., Inc.**
52 W. Houston St. • New York 12, N. Y.

▼ BREEFITS—directly to IEN-8750 if you write the maker ▼

## TACHOMETER . . DC. and AC. designs for explosive or dust filled locations

Source: WESTON ELECTRICAL INSTRUMENT CORP.
612-16 Frelinghuysen Ave., Newark 5, N. J.

**Model** 750 is accurate at the calibration for speeds to 2000 rpm and Model 756 for an speed indication to 5000 rpm are two new starter tachometer generators for application with any of a variety of speed indicating instruments carrying specified calibration.

**The generators** apply auto-magnetic in a two-part cast iron housing in an assembly that is listed by Underwriters' Laboratories Inc., for Class I Group D and for Class II Group E and G hazardous locations. These include oil refineries, chemical plants, grain elevators, flour mills, coal mines where explosive atmospheres are likely to exist.

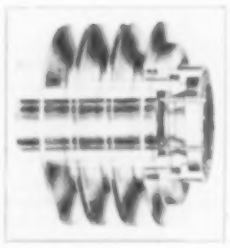
**Both models** of generator are kinds of Type E. They assemble on flange seals in the housing and with drive by a ⅜ in. extension steel shaft extending 1½ in. beyond the bearing support. Electrical connection between the generator and the remotely located indicating instrument is in a terminal box threaded for ⅜ in. conduit. The housing is equipped with four mounting feet and measures about 10½ by 4½ inches. Heavy use of generator outputs does not affect the indicator reading.

**Circular D-11,** 4 pages, illustrates and describes the use of the generators and indicators with dimensions. For prices.

▼ BREEFITS—directly to IEN-8751 if you write the maker ▼

## DRIVE . . Adjustable pitch sheave for A, B, C belts, 3 to 8 grooves

Source: AMERICAN PULLEY CO.
4242 Wissahickon Ave., Philadelphia 29, Pa.



**Split taper** bushing to mount on a drive shaft, split taper sheave to assembly on the bushing, a set of axially adjustable flanges with means for adjustment and locking make up the assembly of this new adjustable-pitch Wedgebelt sheave. The locking action, after the sheave flanges have been set at desired pitch, makes the bushing, sheave and flanges essentially one-piece construction until a new setting is to be made. The adjustment does not change center distances actually between the sheave grooves. Non-adjustable companion sheaves are available to match the groove spacing in the various sizes of adjustable units.

**Smallest unit** in the A belt series adjusts in pitch diameter between 3.4 and 4.6 inches. Companion sheave diameter in this series is 4.6 to 18 inches. Largest adjustable unit in the C belt series ranges between 10.5 and 12.5 in. in pitch diameter. Companion sheaves for this series measure 8 to 30 inches. Selection data, tabulations covering all available sizes are contained in technical data pages available on request.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEFITS—directly to IEN-8752 if you write the maker ▼

**TRABON LUBRICATING EQUIPMENT Delivers a Measured Amount of Lubricant**
• To Any Bearing . . .
• In Any Location . . .
• Under Any Condition

Since 1930 Trabon has been engineering, manufacturing, and installing centralized lubricating systems . . . for plain bearings, roller bearings, and ball bearings . . .

Since 1922 Trabon has been helping industry solve its lubricating and bearing problems.

*In the plant of Cons. Inc. Chicago, a Trabon system services 131 points of lubrication on this machine, which produces 110 units per minute.*

*Call Trabon in regard to your lubrication requirements.*

*Trabon*
OIL AND GREASE SYSTEMS

TRABON ENGINEERING CORP.
2814 East 40th Street
Cleveland 3, Ohio

▼ BREEFITS—directly to IEN-8753 if you write the maker ▼

**Sloane-Blabon *makes printing a part of processing . . .***

## with the Gottscho ROLAPRINTER

Imprinting trade names and measured cut-off marks on linoleum is an integral part of Sloane-Blabon's production operation. This is accomplished with the Gottscho ROLAPRINTER . . . a small, compact, precision-engineered machine that automatically prints continuous or repeated designs on any kind of sheet or strip material at speeds up to 800 per minute. Affords "print-quality" impressions up to 8" wide. Uses fast-drying inks of any color for light and dark surfaces.

Write for Data Sheet 12.0

**ADOLPH GOTTSCHO, INC.**
MACHINES TO MARK WHATEVER YOU MAKE
6 EVANS TERMINAL • HILLSIDE 5, N. J.

▼ BREEFITS—directly to IEN-8754 if you write the maker ▼

# GET RID OF WIRES

and get foolproof connections in
RADIOS
AMPLIFIERS
SWITCHBOARDS
METERS

**Print your circuits with Du Pont Conductive Coatings—reduce costs and time**

Highly conductive coatings of low resistance are easily obtained by spray, brush, dip or stencil to metals and non-conductors. These coatings can be used to make economical, lightweight, compact high-voltage capacitors; static shields to replace usual cans and foils; resistors and solder seals. For more information, send for Bulletin CP 2-1248. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Del.

**DU PONT ELECTROCHEMICALS**

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

▼ BREEFITS—directly to IEN-8755 if you write the maker ▼

*"Auto-grip"*
AUTOMATIC CHUCK

NEW!

**ANOTHER OSTER Exclusive FEATURE**

All Oster 2" pipe threading machines which receive the work are now equipped with the revolutionary NEW "AUTO-GRIP" front chuck. All the operator does is spin the handwheel until the chuck jaws strike the pipe and then starts the machine. Instantly the jaws grip the pipe automatically. *The tougher the pull—the tighter the grip!* No chuck bar or T wrench needed.

The NEW Oster "AUTO-GRIP" chuck is equally effective on steel, iron, galvanized or any other kind of pipe.

Owners of Oster No. 422 POWER VISE STANDS can equip their machines with the new "AUTO-GRIP" and receive liberal trade-in allowance on the former front chucks.

Obvious advantages of the "AUTO-GRIP" are greater speed in chucking and unchucking pipe and greater safety for the operator because no bar or wrench is used. Write for complete details.

**OSTER**
The Oster Manufacturing Co.
2951 East 61st Street • Cleveland 3, Ohio, U.S.A.

BREFIT—Identify by IEN-8756 if you write the maker

## How Production-Wise Manufacturers SAVE SANDING COSTS

**FINISHING METAL**

This manufacturer of automatic dishwashers, dissatisfied with other abrasives, switched to AP's No. 80 Jewelite Cloth X73. Now reports: "This cloth is the best we've ever used!"

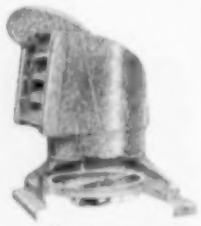
**FINISHING PLASTICS**

This manufacturer called in AP Engineers on problem of finishing plastic switch plates. Cool-running AP Silver Streak Belts were recommended. Results: Silver Streaks did 25% more work than other belts — eliminated spoilage — cost not a penny more.

Have you got a finishing problem? Ask your distributor about AP Jewel Coated Abrasives or write us today!

**Abrasive Products, Inc.**

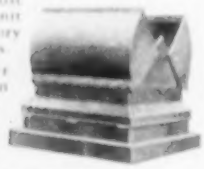
BREFIT—Identify by IEN-8757 if you write the maker



## Triple threat to bad air in your plant

● Where you have concentrated heat, smoke or fumes, use *power* to expel it. Aerjector, Valvent and Jet-O-Valve Ventilators help you profit by Swartwout's 45 years ventilating experience. We help you select most economical unit for your factory conditions.

Write for Bulletin 558B



*Also gravity type ventilators and intake louvers.*

1810 Euclid Avenue, Cleveland 15, Ohio

**The Swartwout Co.**

**Industrial Ventilation Specialists Since 1904**

Equipment for *Controlled* Air Circulation

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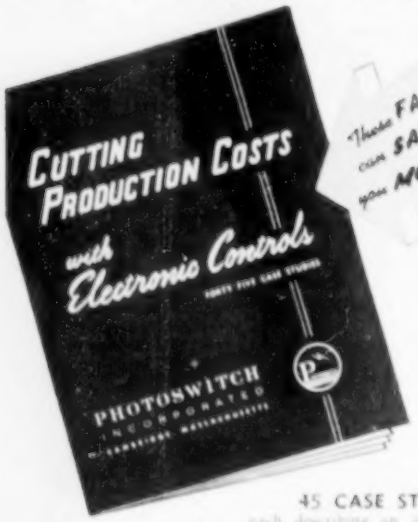


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**45 CASE STUDIES**

... each describing an industrial control problem which has been solved through the use of electronics. Not a catalog — it shows HOW photoelectric and electronic controls count, guard, sort, weigh, measure, maintain liquid levels, program operating cycles and do countless other tasks with unfailing accuracy and amazing speed.

Write for your copy today

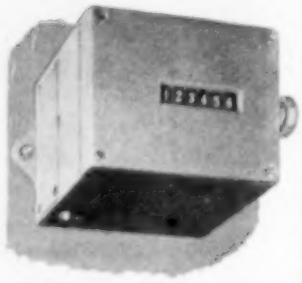
**PHOTOSWITCH** INCORPORATED

75 Broadway, Cambridge 42, Massachusetts

BREFIT—Identify by IEN-8759 if you write the maker

## COUNTING . . Electric unit sealed in aluminum case, 4 or 6 wheels

Source: PRODUCTION INSTRUMENT CO.
700-10 W. Jackson Blvd., Chicago 6, Ill.



**New assembly** of the company's Wizard electrically-operated counter in a sealed aluminum housing back of a plastic window provides protection against dust, moisture, fumes for the operating mechanism. Actuation is by an electric switch, relay or photoelectric desired distance.

**Current input** is about 4 watts. Operating coils are rated for continuous duty. Operating speed is to 900 cpm. Overall dimensions are 3⅝ by 4¼ by 4⅝ inches. Designs include key or knob reset or non-reset. Operation is on any ac or dc circuit to 220 volts as maximum power supply rating.

BREFIT—Identify by IEN-8760 if you write the maker

## LUBRICATING . . Synthetic oils for precision instrument bearings

Source: GULF OIL CORPORATION
352 Gulf Bldg., Pittsburgh 30, Pa.

**Developed from watch oil research**

**Special Instrument** and **Micro Bearing** designate two new synthetic oils developed by the company particularly for use in minute quantities in pivot to jewel and pivot-to-brass bearings in precision instruments of all types. Both oils are characterized by their resistance to creeping and spreading, their resistance to oxidation, low volatility, high flash and fire points. Packaging is in 5-cc. bottles, six to a carton.

BREFIT—Identify by IEN-8761 if you write the maker

## HANDLING . . Mobile tool cabinet made of steel, interchangeable drawers

Source: PROTO TOOLS
2207-11 Santa Fe Ave., Los Angeles 54, Calif.

**No. 9968** is a new caster-mounted steel cabinet with an 18 by 28 in. Masonite working top and a tool-retaining rail around three sides. The drawers ride on runners that fit into notches spaced each 2 in. between top and bottom to take any desired combination of units measuring 2, 4 and 6 in. in depth. Two of the casters have foot-operated floor locks. A single lock front secures all of the drawers against unauthorized opening.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREFIT—Identify by IEN-8762 if you write the maker

**ADD SALES APPEAL TO YOUR PRODUCT**

*Highly resistant to rust and vibration.*

Extra Sales ... better duty. New Donaldson Mono-Seam gas tanks fulfill all requirements for beauty and utility. They are produced from extra deep-drawing quality steel plate, giving them resistance to rust. Rigid with only one seam, Donaldson Mono-Seam tanks resist vibration better. Each tank is pressure-tested to test leaks at 15 PSI.

Donaldson Mono-Seam tanks come in regular and in many cases less than regular tanks with triple seams. Tanks are available in sizes from ... to 6 gallon capacity. Many models in round, elliptical and square shapes currently being produced in volume. Common built tanks to fit special needs can often be produced from existing tools and dies. Mounting brackets simplify installation.

*Write for Specifications or engineering assistance*

**DONALDSON COMPANY Inc.**

666 Pelham Blvd. St. Paul 4, Minnesota

BREFIT—Identify by IEN-8763 if you write the maker

## Write for this new *Bulletin* TODAY

*Get the facts on how you can save on* DRUM CLOSURES

BREFIT—Identify by IEN-8764 if you write the maker

*Write for Catalog* OF USES and SPECIFICATIONS

## GENERAL Industrial Pneumatics

**ADD THESE 6 SELLING POINTS TO YOUR PRODUCT**

**SAVE**
- TIME
- LABOR
- FLOORS

**REDUCE**
- BREAKAGE
- MAINTENANCE
- COSTS

Available in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 23"—200 to 2000 lbs. cap. for low or high speeds.

*Rigid* **CASTER FORKS** *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

*More* AIR VOLUME • *More* STABILITY • *More* LOAD CAPACITY

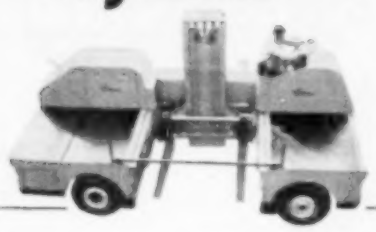
DELIVERS *Long Mileage* IN HI-SPEED SERVICE

*SEND FOR CATALOG . . .* DEPT. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

▼ BREVITY—Identify by IEN - 8766 if you write the maker ▼

# Greater Pay Load Per Operator



*...because it loads itself from the side*

● One man equals three—one machine equals several—when you lift, load, unload, stack, haul with the amazing Traveloader! Hydraulically-operated, side-loading elevator lifts loads to 10,000 lbs., deposits material lengthwise on the Traveloader platform. Complete loading cycle—only 20 seconds. Hauls at speeds to 50 mph—stacks from ground level to 12 feet high. Handles steel, timber, pipe, poles, spooled cable—industrial materials of all kinds. Many other uses and features. Get full details now.

**LULL Traveloader**

LULL MANUFACTURING CO. • 3616 E 44th ST. • MINNEAPOLIS 6, MINN.

▼ BREVITY—Identify by IEN - 8767 if you write the maker ▼

# WRITE FOR FREE fastener catalog

A complete, comprehensive handbook on cold headed nuts, rivets, screws and other special fasteners. Check our ways to improve your assembly cost-wise, appearance-wise and from a standpoint of maximum effectiveness at minimum cost. One hundred years of experience are at your service. Write for price quotations or for suggestions on the redesigning of your present assembly.

JOHN HASSALL, INC.
132 Clay Street, Brooklyn 22, New York

▼ BREVITY—Identify by IEN - 8768 if you write the maker ▼

# SHAFT PACKING NO CHEMICAL CAN ATTACK

TEFLON "CHEMSEAL" (DU) PACKING STAYS IN SERVICE MONTHS WHERE OTHER PACKING FAILED IN HOURS

*Teflon Products Division*

**UNITED STATES GASKET COMPANY**

658 No. 10th Street, Camden, New Jersey

▼ BREVITY—Identify by IEN - 8769 if you write the maker ▼

## TRUCK . . Power lift fork design, 1/2 ton, automatic travel acceleration

Source: CLARK EQUIPMENT CO.
Battle Creek 69, Mich.

**The operator** must be in seated position on this new truck to release the controls and free a parking brake on the shaft of the driving motor. He controls speed of the truck by moving his operating lever in "low" position. Then he operates an accelerator for higher speed. This accelerator carries the motor controls through the required changes into high speed in either forward or reverse so the motor cannot be overloaded. A separate motor drives the hydraulic pump supplying pressure for the lift movement. Both motors are battery powered in standard arrangement.

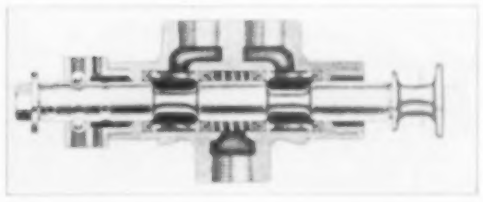
**Standard lift** height is 81 or 128 in. but other heights between 74 and 120 in. can be specified. Corresponding height of the uprights is 56 to 83 in. with the forks down, 93 to 140 in. when they are at the top of their travel. Lift speed is 56 ipm empty, 33 ipm loaded. In addition to lift and lower the forks can be tilted with the uprights 5 deg. to the front, 10 deg. to the rear. Travel speed is 6½ mph empty, 6¼ mph loaded when a 36-volt battery is employed. A capacity load can be moved up a 7½ per cent grade.

**The truck** can be operated in 81½ in. intersecting aisles. It measures 84½ in. with standard 30 in. forks. Width will clear doors 28 inches. Outside turning radius is 58 inches. Wheel base is 30½ inches. Bulletin 88-170 contains specifications.

▼ BREVITY—Identify by IEN - 8770 if you write the maker ▼

## VALVE . . Plunger type pneumatic, 4-way design blocks ports in neutral

Source: VALVAIR CORP.
452-56 Morgan Ave., Akron 11, Ohio



**Neutral position** for flow new 4-way valve, as shown in the illustration, closes all ports, pressure and exhaust. As a result a double or single acting piston can be held in a given position if there is no leakage in the connecting lines. The valve is available in five port sizes between ¼ and 1 inch. Pressure capacity is to 175 pounds. Operation is by knob, lever, cleats or treadle as required.

**As shown**, the inlet is at the central connection in the body and cylinder connections are beside each other on the opposite side. Exhaust is through the annular opening surrounding the central stem at the operating end and through side ports to atmosphere at the ball detent end. The balls ride into grooves in the stem for neutral position and for application of operating pressure to one or the other of the cylinder ports.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN - 8771 if you write the maker ▼

rapidly duplicated with

**di-acro HYDRA-POWER BENDER**

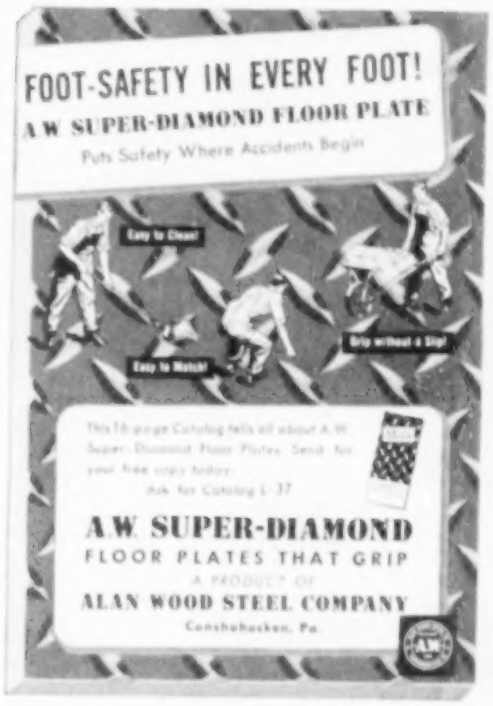
*Send for*

"DIE-LESS DUPLICATING" CATALOG

DI-ACRO is pronounced "DIE-ACK-RO"

**O'NEIL-IRWIN MFG. CO.**
318 8th Avenue, Lake City, Minnesota

▼ BREVITY—Identify by IEN - 8772 if you write the maker ▼




▼ BREVITY—Identify by IEN - 8773 if you write the maker ▼

# Ford reports . . .

## A $75,000 per year saving with Kodagraph Autopositive Paper

**Before** . . . Ford's valuable original drawings had a short life. They were used as the blueprint "masters" . . . were exposed to machine wear and tear . . . constant handling. Soon they lost their detail . . . produced illegible prints . . . which meant that new drawings had to be redrawn.

**Now** . . . it's a different story. Ford reproduces its drawings on Kodagraph Autopositive Paper . . . gets positive, photographic intermediates—quickly, inexpensively. They use these to turn out all blueprint orders. *Just a simple change in routine*—but one that gives Ford an estimated $75,000 per year saving in redrafting time alone . . . and frees draftsmen for creative work. Also, it simplifies blueprint production . . . for "Autopositives" permit the use of uniform, practical machine speeds . . . do not smudge or smear . . . produce highly legible prints even after hundreds of run-throughs.

**Learn the whole story** on revolutionary, low-cost Kodagraph Autopositive Paper, which allows you, or your local blueprinter, to turn out positive, photographic intermediates *directly* . . . with existing print-making equipment and standard photographic processing.

**Write today for free booklet** giving all the facts on Kodagraph Autopositive Paper.

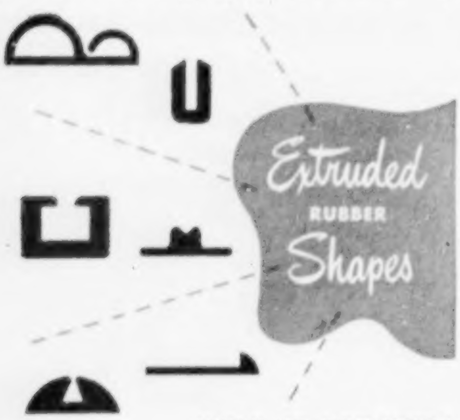
EASTMAN KODAK COMPANY
Industrial Photographic Division, Rochester 4, N. Y.

**Kodagraph Autopositive Paper**

The Big New Plus in Engineering Drawing Reproduction

Kodak TRADE-MARK

BREVITY—Identify by IEN - 8775 if you write the maker




**WHAT DO YOU NEED?**

We have a multitude of dies available to meet your requirements. Designs shown are but a few in our large and varied assortment. Lowest possible cost per unit. Send specifications *today*.

**FREE: 44 page catalog**

Illustrates and describes complete LAVELLE line mechanical and industrial rubber specialties. Request your copy today.

*Take It Up With*

**LAVELLE** *Rubber Company*

1811 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS



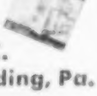
BREVITY—Identify by IEN - 8776 if you write the maker

# CUT STEAM COSTS

**SAVE FUEL AND LABOR!**

- High efficiency cuts fuel costs as much as 40%.
- Packaged design saves excessive installation costs.
- Automatic operation frees engineer for other duties.
- Delivered completely wired and factory-tested.
- Mounted on steel base—no bricking required.
- Constructed to A.S.M.E. Boiler Code.
- All units approved by Underwriters' Laboratories.
- Widespread service by factory-trained men.

High and low pressure units from 15 to 500 HP, available for light oil, heavy oil, gas or combination gas-oil firing. *Free catalog* mailed on request—write



**ORR & SEMBOWER, INC.**
**860 Morgantown Rd. • Reading, Pa.**



BREVITY—Identify by IEN - 8777 if you write the maker

Outlast Ordinary Faucet Washers 6 to 1

You can stop costly faucet leaks that boost water, fuel and labor costs and ruin expensive fixtures. Insist on pat'd "EASY-TITE" Faucet Washers—made of DUPONT NEOPRENE to withstand absorption and extreme high temperatures (upwards of 300° F). Fabric reinforced like a tire, "EASY-TITES" can't split or mush out of shape. Outlasting ordinary washers 6-to-1, "EASY-TITES" have cut faucet repairs to a minimum and brought maintenance costs sharply down in plants, hospitals, schools, hotels and institutions everywhere.

**FREE! VALUABLE 112-PAGE CATALOG**

Lists over 2,300 'SEXAUER' Triple Wear Replacement Parts and pat'd Precision Tools as advertised in the SATURDAY EVENING POST. Standard with leading maintenance engineers everywhere. Send a postcard for your free copy TODAY.

J. A. SEXAUER MFG. CO., INC.
2503-05 Third Ave., Dept. K-90, New York 51, N. Y.

**SEXAUER**
World's leading specialists in plumbing and heating maintenance.


BREVITY—Identify by IEN - 8778 if you write the maker

## CLEANING . . Abrasive blast machine with 16 by 19 by 53 inch cabinet

Source: RUEMELIN MFG. CO.
3863 N. Palmer St., Milwaukee 12, Wis.

**Compressed air** from a shop source at a recommended 100-lb. pressure is connected to a suction-ejector nozzle in the top of this new blast cabinet. The abrasive is directed downward to a work piece hand held for cleaning. The work is introduced through a door at the front and is held in gloves attached to hand openings. Action of the nozzle is controlled at a fixed point.

**The machine** will handle sand, soft-grit abrasive, aluminum oxide, silicon carbide, steel shot or grit. Storage capacity is about 75 lb. of abrasive. Equipment includes a motor-driven suction blower and filter to remove dust particles created by the blast action.

BREVITY—Identify by IEN - 8779 if you write the maker

## THERMOSTAT . . Portable control for portable electric space heater

Source: ELECTRIC CONTROLS INC.
50 Swan Island, Portland 18, Oregon

List price is $13.95

**Heat sensitive** element in this new thermostat is enclosed in a rectangular housing to suspend from a wall hook. The element connects through an extension cord and series adapter plug to a 110-volt ac. power source. The series plug also takes the connection to a portable electric heater rating to 15 amp. on 110-volt ac. The unit opens and closes the heater circuit to hold temperature at a desired point. It carries approval by Underwriters' Laboratories Inc.

BREVITY—Identify by IEN - 8780 if you write the maker

## EXTINGUISHING . . Soda-acid unit for hand use has stainless steel tank

Source: WALTER KIDDE & CO.
673-77 Main St., Belleville 9, N. J.

**The company** announces the use of stainless steel in its new designs of hand-type soda-acid, water and foam extinguishers. The steel provides strength against pressure and so minimizes overall weight. Each is tested to 500 pounds.

**Nozzles** are made of transparent plastic so the operator can detect a clogged passage. Identification labels are printed on the metal so they cannot be obliterated in normal service. Each unit carries approval by Underwriters' Laboratories Inc.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 38*


BREVITY—Identify by IEN - 8781 if you write the maker

# SHAKEPROOF thread-cutting screws

*ACTUALLY CUT THEIR OWN THREADS IN DIE-CAST MATERIALS!*

Because their exclusive off center, wide slot presents an acute serrated cutting edge to the work, Shakeproof Type 23 Screws are ideally suited for use in die castings and in metals which tend to powder when driven. With exceptional free-cutting action, they produce a standard machine screw thread and completely eliminate separate tapping operations.

**send for *FREE* sample kit No. 10**

Try these screws! Prove to yourself their time and money saving advantages. Write today!

**SHAKEPROOF inc.**
DIVISION OF ILLINOIS TOOL WORKS
2501 North Keeler Ave., Chicago 39, Ill.



BREVITY—Identify by IEN - 8782 if you write the maker

**You Should Try CHAMPION AIR HOSE**

Falling objects bounce off Champion Air Hose like a rubber ball without cutting through the resilient safety cover.

A high-grade braided hose built with an oil resistant Reprene tube, Republic Rubber's Champion Air Hose has long been a favorite for tough going. Now, new processing methods provide added features of strength and durability!

Special chemically treated yarn for the carcass is carefully processed under tension before being braided. Our special process gives the reinforcing material more tensile strength and provides a hose that maintains its original length.

With a thick tan cover to resist cutting, abrasion and wear, Republic Champion is available in braided mandrel cured construction in 50-foot lengths.

*Consult your Republic Distributor or write Republic Rubber, Youngstown, Ohio, for more complete news about this improved air hose.*

MECHANICAL RUBBER GOODS BY
**REPUBLIC RUBBER DIVISION**

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN, OHIO
LEE DELUXE TIRES & TUBES, CONSHOHOCKEN, PA.



BREVITY—Identify by IEN - 8783 if you write the maker

MORE WORK OUTPUT
LOWER REJECT LOSS
REDUCED COST PER PIECE

# LOCALITE
## THE VITAL SEEING ZONE
ON MACHINE OR BENCH

**For Greater-Seeing Efficiency on every Job . . .**

**MODEL 32-H-174**

**$4.60** EACH in pkg. of 6
Single Units $5.75 ea.

**MODEL 3267-H-174**

**$5.56** EACH in pkg. of 6
Single Units $6.95 ea.

**MODEL 3470-P-172**

**$6.52** EACH in pkg. of 6
Single Units $8.15 ea.

★ Write for free booklet on "Balanced Lighting" and complete catalog of Localites and Generalite models.

BALANCED LIGHTING **fostoria** GENERALITES . LOCALITES

THE FOSTORIA PRESSED STEEL CORP.
FOSTORIA, OHIO, U. S. A.

Localites are available through selected distributors everywhere.

▼ BREVITY—Identify by IEN-8785 if you write the maker ▼


**ELIMINATE . . .**
1. Screw Thread Troubles
2. Solid Bushings

Stripping, abrasion, wear, corrosion, galling, and seizing are eliminated when Heli-Coil® Screw Thread Inserts are used as a permanent tough lining between thread and mating member. These stronger, more durable precision-formed wire inserts of stainless steel or phosphor bronze are designed for use in iron and steel, aluminum, magnesium and other non-ferrous metals, and in wood, plastics, and ceramics.

Heli-Coil Inserts are original equipment components in such industries as aviation, automotive, railroad, electronics, machinery, appliances and small tools. They assure production economies, improve products . . . save weight and space, make assembly and disassembly easier . . . simple. Heli-Coil Inserts are the low-cost answer to all screw thread troubles.

Write for the complete Heli-Coil design data folder and prices.

47-150 Thirty-Fifth St., Long Island City 1, N. Y.

**HELI-COIL CORPORATION**


▼ BREVITY—Identify by IEN-8788 if you write the maker ▼

## SIGNALING . . Photocell detectors and control panel to warn of a fire

Source: FIREYE CORP.
75-79 Broadway, Cambridge 42, Mass.

**System FD-10** is a new assembly of a maximum of six infrared photocells, a central control panel and panel mounted pilot lamps to signal operating conditions continuously, need for maintenance attention, or the instance of a fire signal in the instance of alcohol burning in a 6-in. pan at about floor level. Operation is on 110/220-volt 50/60-cycle ac, with output for the fire-signal indicators at 6-volt ac, and for the trouble signal at 6 volt dc. The latter circuit is powered by a 6-volt dry battery that is relayed into action in the event of operational failure.

**Each detector** will cover an area 40 ft in diameter and all are connected into the control panel in series. The detectors themselves mount on any standard 3-in. outlet box with ceiling installation under normal conditions. An electrical impulse of too small intensity to operate the fire signal is continuously sent through the installation to flash a signal lamp that indicates satisfactory operating condition. A discriminator circuit determines the signals for the fire warning.

▼ BREVITY—Identify by IEN-8791 if you write the maker ▼

**PROBLEM:** Midwest hardware manufacturer wanted sturdy, uniformly sized material handling containers that could be wheeled and stacked by a power lift truck yet designed to allow easy access to a roomy interior.

**SOLUTION:** Woven wood-and-wire Lewis Box Truck with built-on skids provides stackability, wheelability. Special drop side assures interior accessibility. Lewis Containers can be adapted to your problem — send for details.

G. B. LEWIS CO., 409 Mont. St., Watertown, Wisconsin

SKID BOXES
STACKING BOXES
SHIPPING BOXES
BOX TRUCKS

**LEWIS**
INDUSTRIAL CONTAINERS

Also Mfrs. of Airplane Propellers, Bee Ware, Venetian Blind Slats, and Golf Ball Washers


▼ BREVITY—Identify by IEN-8786 if you write the maker ▼

*Another Bancroft-Hickey Original*—a wafer-thin abrasive bite for a fine tooth comb.

Others said it couldn't be done—a resinous bonded abrasive wheel that thin (.015 in.) would "dish." Clearly impossible . . . yet we came up with another Bancroft-Hickey Original, a wheel that is that thin but *will not* dish. And the manufacturer of this comb is now equipped with a more efficient, 3-surface bite . . . a more economical, long-term bite than he could ever have hoped for with steel.

If you have an "impossible" grinding problem, take a tip—the answer's in a Bancroft-Hickey Original. Get in touch with us today.

*Bancroft-Hickey Originals—special wheels for special purposes . . . as individual as a thumb-print.*

**BANCROFT-Hickey**
MANUFACTURING COMPANY
BRISTOL, PA.


▼ BREVITY—Identify by IEN-8789 if you write the maker ▼

## HANDLING . . Molded tote box made of fiberglas-reinforced plastic

Source: MOLDED RESIN FIBER CO.
P. O. Box 3-A, Ashtabula, Ohio

**Type 300 NS** is a new molded plastic tote box made from flat sheet stock 3/16 in. in thickness. Inside dimensions are 20 by 22 in. at the bottom. Outside measures 28 by 24 in. at the top. Inside depth is 5¼ in. and overall height is 6¾ inches. The box weighs 6½ pounds. It can support a 2-ton load across its top flange. The shape permits stable stacking, either full or empty, as well as nesting, the latter minimizing vertical space as shown in the illustration.

**The plastic** material is not affected by contact with acids, common solvents or with alkalis at temperatures below the boiling point. Strength remains constant in a temperature range between minus 40 and plus 250 deg. F. The box is not suited for continuous exposure to heat as high as 300 deg. F. The material can be washed, will not splinter.

**The company** is prepared to supply boxes from molds it has in stock and to quote on other sizes to include tool costs on initial orders. The box illustrated lists at $3.50 in lots of less than 10 units. It is $1.25 in lots of 10,000 or more.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 36*

▼ BREVITY—Identify by IEN-8792 if you write the maker ▼

**GENERAL PLATE SOLDER FLUSHED METALS**
**SAVE MATERIALS . . . REDUCE FABRICATION COSTS**

Now you can get from General Plate precious and base metals with a *flushing* of various brazing materials, such as all types of silver solders, copper, etc. on one side or both sides.

Flushed metals as pioneered by General Plate offer many advantages over other forms of soldering or brazing methods. Because the brazing alloy is on the metal, it reduces fabrication costs by eliminating a number of operations and pieces handled, brazing, fluxing and cleaning . . . assures a better, stronger bond.

Investigate General Plate flushed metals. Precious or base metals are available flushed with various brazing or soldering alloys. Write for information.

**GENERAL PLATE**
*Division of Metals and Controls Corporation*
79 FOREST STREET, ATTLEBORO, MASSACHUSETTS


▼ BREVITY—Identify by IEN-8787 if you write the maker ▼


**NEW All-Metal . . .**
**All-Weather MOUNT**

Complete and Balanced Protection

MET-L-FLEX

All-metal—all-weather cup type shock mounts with MET-L-FLEX provide vibration isolation and shock absorption through the widest possible range of operating conditions.

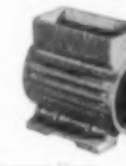
These all-metal unit mounts and mounting systems are absolutely uniform • no organic materials • stable characteristics from -90°C to +175°C • wide load tolerance • built-in damping for reduced amplification at resonance.

For electronic or delicate equipment mounting, write Dept. 706
MET-L-FLEX
Data Sheets available

**ROBINSON AVIATION INC.**
TETERBORO, NEW JERSEY
*Vibration Control Engineers*


▼ BREVITY—Identify by IEN-8790 if you write the maker ▼


**WELL CAST**



You're sure of a strike like this, when you've made sure your tackle and technique are RIGHT.

And you can't miss if you apply the same principle in buying aluminum and magnesium castings.

Particularly when you specify *Well Cast* castings. You know you are getting 40 years' experience; three *complete* plants; X-Ray facilities; close metallurgical control; quality production technique.

Sand, semi-permanent, permanent mold.

Like to receive the Wellman Magazine each month?

Drop us a note.

*"A Light Casting Is the Right Casting"*

Well-Made wood and metal patterns
Well-Cast Ampco bronze castings

**THE WELLMAN**
**BRONZE & ALUMINUM COMPANY**
2310 EAST 93rd STREET • CLEVELAND 4, OHIO


▼ BREVITY—Identify by IEN-8793 if you write the maker ▼


**WHEN YOU NEED**
**STEEL**
**CALL RYERSON**

Contact Ryerson for prompt shipment of dependable steel products. Because of great demand, all sizes are not always in stock, but you will find that we can usually take care of your requirements.

PRINCIPAL PRODUCTS

Bars • Structurals • Plates • Sheets • Tubing • Allegheny Stainless • Alloy Steel • Safety Floor Plate • Babbitt • Solder Metal Working Tools & Machinery, etc.

JOSEPH T. RYERSON & SON, INC.

Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco

▼ BREVITY—Identify by IEN - 8794 if you write the maker ▼

# Catch Stray Metal

ALLIS-CHALMERS Electronic Metal Detectors do a big job for many of the nation's largest food processors safeguarding product quality and protecting expensive equipment. The cost of this protection is as low as one cent for 10,000 packages on high production items, such as cereal (shown above), gum, cigarettes, candy bars.

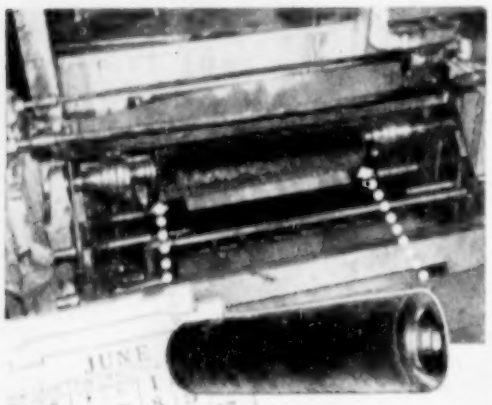
Installed at the raw material, processing, or packaging stages, these units detect stray metal—magnetic or non-magnetic—no matter how deeply imbedded. Particles as small as .047 inch in diameter are caught. Get new 20 page booklet 7217 by calling your nearby A-C office, or write direct.

A-3011

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

**ALLIS-CHALMERS**

▼ BREVITY—Identify by IEN - 8795 if you write the maker ▼



# SAVES 10 WEEKS

**WESTERN BRASS MILLS Report Savings Since Installing FULLERGRIPT BRUSHES**

Western Brass Mills, Division of Olin Industries, Inc., take extreme care with the finish of their strip brass. Naturally, the brushes installed in their four pickling and annealing machines are of the utmost importance. Yet, up until 8 months ago, getting brushes that would last had always been a problem. At that time, Fullergript brushes were installed.

**HERE IS HOW WESTERN BRASS NOW SAVES 10 WEEKS TIME WITH FULLERGRIPT**

| | PREVIOUS BRUSHES | FULLERGRIPT BRUSHES |
|---|---|---|
| Average life | 9 days | 6 months |
| Replacement change per year (per pair of brushes) | 30 | 2 |
| Replacement time (pair of brushes) | 2½ hrs. | 2½ hrs. |
| Replacement time per year (pair of brushes) | 75 hrs. | 5 hrs. |
| No. of pairs of brushes in service | 6 | 6 |
| Time spent replacing brushes per year | 450 hrs. | 30 hrs. |

**TIME SAVED (per year)...420 HOURS...OVER 10 WEEKS**

In addition Western Brass engineers estimate that the longer life of Fullergript saves them $30. on brush costs per month on each machine....an annual saving of $1440.

Have you investigated the cost-saving possibilities of Fullergript in your plant? For further information simply write to.....

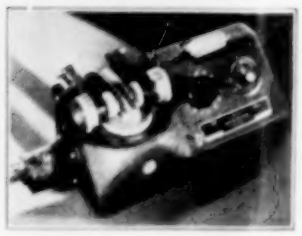
**FULLERGRIPT** THE FULLER BRUSH CO.

INDUSTRIAL DIVISION, 3583 MAIN STREET, HARTFORD 2, CONN.

▼ BREVITY—Identify by IEN - 8797 if you write the maker ▼

## TESTING . . Abrasive wear machine for solid materials, coated surfaces

Source: TABER INSTRUMENT CORP.
107 Goundry St., North Tonawanda, N. Y.



**New design** of the company's Abraser machine, initially developed some years ago, employs a capacitor motor with a worm-gear drive to the rotating specimen-mounting table, a vacuum unit to draw dust from the work, an electric counter to register cycles, two sets of stainless-steel weights for three standard ranges of abrading wheel pressures of 250, 500 and 1,000 grams.

**Holders** are available for various types of test specimens. Operation is on 110-volt 60-cycle ac. List price with a complete set of accessory equipment is $650.

▼ BREVITY—Identify by IEN - 8798 if you write the maker ▼

## PAINTING . . Aluminum paint for metal surfaces subject to high heat

Source: SERVICE INDUSTRIES
2103-7 E. Somerset St., Philadelphia 34, Pa.

For stacks, flues, fire doors, manifolds

**Sil Var 1000°**, is a new paint in which aluminum pigment is carried in an organic resin vehicle for application on metal surfaces subject to high heat. The resin volatilizes when its temperature is raised and the aluminum forms a metal film over the surface to which it fuses. Application should be made initially on surfaces not hotter than 100 deg. F. The paint dries to touch in about 2 hours and is hard in 3 to 4 with coverage at about 150 sq. ft. per gallon.

▼ BREVITY—Identify by IEN - 8799 if you write the maker ▼

## ROCK DRILLING . . Pneumatic hammer drives and also rotates drill steel

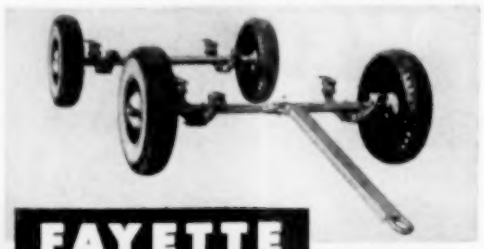
Source: CHICAGO PNEUMATIC TOOL CO.
6 E. 44th St., 2d Floor, New York 17, N. Y.

**Handril CP 9** is a new 7½-lb. pneumatic hammer for use in equipment installation and maintenance. It is fitted with an Ajax quick-change chuck and with air-power rotating drive for a drill steel. It can be employed also with non-rotating chisels. Construction includes a built-in oiler and right or left-hand exhaust so a blower hose can be used.

**The hammer** is packed in a metal carrying case with three star drills having 8-in. depth capacity for ½, ¾ and 1-in. holes. Also included is a mott point, a flat 1-in. chisel, two wrenches and a pint can of oil.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN - 8800 if you write the maker ▼



**FAYETTE**
**Precision Built**
**UNDERCARRIAGES**

Straight Axle Steering Assemblies are available as 2 or 4-wheel units. Capacity up to 12,000 lbs. Rugged construction for hauling heavy duty equipment under all operating conditions.

## CUT ASSEMBLY COSTS OF PORTABLE EQUIPMENT

By simply making the necessary bolt or welded attachments, your trailer or portable equipment is ready to roll on a precision built Fayette Undercarriage.

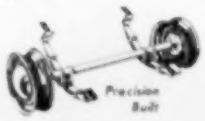
Loads move easier, track truer, because of precision construction.

Save money three ways . . . Simpler installation of completely assembled unit. Longer life, trouble-free service. Lower initial cost.

Tell us your transport needs and our engineers will recommend a practical solution to your problem.

**WRITE TODAY**

for complete specifications on standard Fayette Undercarriage Assemblies and information on specially designed units for your particular portable equipment.




**FAYETTE MANUFACTURING CO.**
320 Front St. • Fayette, Ohio

▼ BREVITY—Identify by IEN - 8801 if you write the maker ▼

# "NATIONAL"

## Self Lubricating Bronze Bearings

*Molded to Your Accurate Specifications*

Our "DUCTILOY" bearings are made from a unique powder formula, perfected by "National" Engineers, that result in a bearing with properties possessed by no other bearing on the market. Our special alloy makes these bearings highly ductile and eliminates waste due to breakage at installation or from rough handling.

We are also very proud of our line of spherical bearings and of our hard won reputation for the delivery of intricate powdered metal parts, heretofore considered impossible to produce.

Applicable to all medium and light weight service, such as Automobile, Electrical Appliances, Farm Equipment, Domestic Appliances, such as Sweepers, Refrigerators, Washers, Portable Electric Tools, etc., and Industrial Machinery.

**LET US HELP SOLVE YOUR BEARING, BUSHING AND SHAFT SEALING PROBLEMS**

*We are equipped to handle your requirements in any quantity.*

**NATIONAL MOLDED PRODUCTS, INC.**

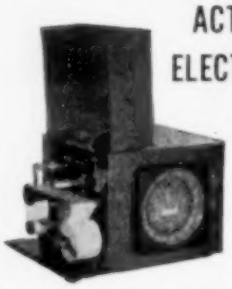
*Manufacturers of*

Sintroy, Ductiloy and Tubeloy Bearings

1945 MILL STREET • ST. MARYS, PA.

▼ BREVITY—Identify by IEN - 8802 if you write the maker ▼

# RECORDING MECHANICAL COUNTER ACTUATED BY AN ELECTRICAL IMPULSE



it operates on the output of a scaler, photo tube, or other electrical unit...permanently records counts on a 2¼" tape . . . automatically resets to zero.

*In Radioactive Research* it saves precious time by eliminating many hours of manual labor, resulting in greater economy and efficiency.

*In Industry* it maintains a permanent record automatically, recording production and time each hour.

*Write for illustrated circular S C 12*

**STREETER-AMET COMPANY**

Automatic Weight Recorders and Scales
High Speed Counters—Since 1888

4101 Ravenswood Avenue Chicago 13, Illinois

▼ BREVITY—Identify by IEN - 8803 if you write the maker ▼

# OHIO ADJUSTING SCREWS

**OHIO**
**ST THUMB SCREWS**

The shoulder will cover lock washers. Wide Wing Spread.

Thread sizes,
#10-24 to ½-20

Materials: Low Carbon Steel, Brass.

**OHIO**
**FS ADJUSTING SCREWS**

Thread sizes,
#10-24 to ½-13

Turned easily by the fingers, pliers, monkey wrenches or socket wrenches. Actually a triple purpose screw.

1—Adjusting screws • 2—Leg levellers • 3—Self locking crating bolts.

For list of stock sizes and samples, send to

**THE OHIO NUT & BOLT COMPANY**
604 FRONT ST. BEREA, OHIO

BREVITY—Identify by IEN - 8804 if you write the maker

# ACTUATORS *for the most exacting design requirements!*

**SPECIAL MOTORS . . .** Drip proof, splash proof, totally enclosed, vapor seal, submersible, high and low extremes of operating temperatures.

**SPECIAL GEARING . . .** Speed range of 30,000 to 1 R.P.M., helical spur, bevel and planetary type.

**COMPLETE POWER PACKAGE UNITS.** For A.C. D.C. power source with magnetic clutches and brakes, built in limit switches, potentiometers, thermal overload relays, radio noise filters, pressure tight shaft seals with linear or rotating power takeoff.

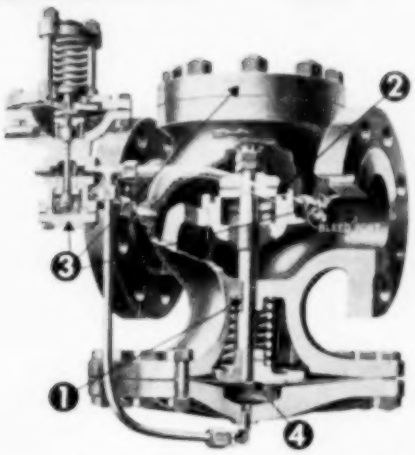
• For positive cockpit sealing, Hoover built into this power unit a unique torque limiting clutch with no frictional parts, the load being transmitted by spring-loaded rollers. Has operated 5,000 consecutive times with a maximum variation in torque of 15% from specified value.

**HOOVER ELECTRIC COMPANY**
2100 South Disney Avenue • Los Angeles 23, California

BREVITY—Identify by IEN - 8805 if you write the maker

# Here's Why SPENCE REGULATORS

**CUT COSTS . . . REDUCE MAINTENANCE**




Thousands of installations throughout the country have proved that Spence Pilot-Operated Regulators provide *dependable, trouble-free* pressure and temperature control year-in, year-out. Here are a few of the many Spence features that save you money . . . help keep *maintenance at a minimum.*

**1. PACKLESS CONSTRUCTION** of all Spence main valves and most pilots *eliminates the need for closely fitted parts* that may stick or bind due to uneven expansion or foreign matter.

**2. DURABLE SECO METAL SEATS AND DISCS** resist wiredrawing. More than 20 years of experience with SECO Metal *has failed to produce one case where it has been cut by steam.*

**3. EASY TO CLEAN WITHOUT DISMANTLING —** The seat and disc of the main valve and pilot can be cleaned and any working part removed *without taking the main valve out of the line.*

**4. LONG-LIFE METAL DIAPHRAGMS,** under usual conditions, never require replacement. The durable spring in the Spence Regulator operates at low unit stress . . . *out of the path of the steam* or other fluid flowing through the valve.

**FREE** BULLETIN NO. 4000 gives complete data . . . contains full color, fully illustrated description of the operating cycle of a Spence Regulator.

Spence

SS-104

**SPENCE ENGINEERING COMPANY, INC.**
**WALDEN, NEW YORK**

BREVITY—Identify by IEN - 8807 if you write the maker

## HOSE MACHINE . . Fitting assembler for flexible hydraulic hose lines

Source: AEROQUIP CORP.
303 S. East Ave., Jackson, Mich.

**Model F-1766** is a new motor-driven bench mounted machine. It enables a manufacturer using a considerable number of hose lines in his plant or products to assemble the company's detachable fittings instead of purchasing complete assemblies with the fittings in place. The machine will handle male pipe, swivel, flange and elbow fittings on a range of hose sizes. No previous experience is required for satisfactory operation.

BREVITY—Identify by IEN - 8808 if you write the maker

## WELDING . . AC. arc machine, 30 to 250 amp., is silicone insulated

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

**Particularly for portable application**

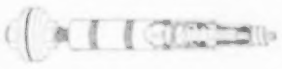
**Series 6WK20H** is a new skid-mounted a.c. arc-welding machine assembled in a housing that measures 12 by 17 by 23 inches. Controls are on the top and face. Plug-in connections for the cables are on the face. The machine weighs 154 pounds. It takes electrodes that measure 1/8 to 5/16 in. in diameter. Standard design operates on 220 volt ac.

**Feature** in the construction is the automatic "hot-start" control which employs a hermetically sealed gas-filled time-delay magnetic switch and a wound resistor. The arrangement causes a surge of increased current through the welding leads when an arc is struck. The coils in the welder are impregnated with Class H insulation employing asbestos, glass, mica, and silicone impregnation. A primary switch opens both sides of the line. Insulated taper plug connectors are provided.

BREVITY—Identify by IEN - 8809 if you write the maker

## GRINDING . . Flexible drive shaft employs slip clutch against overload

Source: F. W. STEWART MFG. CORP.
4309-13 Ravenswood Ave., Chicago 13, Ill.



**Model 2800** is a new assembly of 50-in. flexible shaft with a 3/16-in. core mounting a ball-bearing handpiece at one end with flange washers and locknuts to mount a grinding wheel or brush. At the opposite end is a ballbearing drive connection to take a 1/2-in. motor shaft. Adapters take 5/8 and 3/4 in. motor shafts.

**The handpiece** contains a slip clutch that will release if the operator overloads the drive and will engage again when the overload is released. During the overload interval the clutch sounds a warning in the form of a distinct clicking noise.

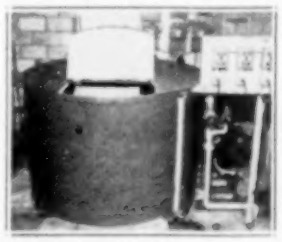
*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 8810 if you write the maker

A NEWS ADVERTISEMENT BY HOUGHTON LABORATORIES, INC.

## PROTECTIVE COATINGS . . Tank exposed to severe corrosion protected over 11 months by Hysol 4000

Source: HOUGHTON LABORATORIES, INC.
322 Bush Street, Olean, N. Y.



**A tough abrasion-resistant film** of Hysol 4000 has been protecting the tank pictured for over 11 months in 24-hour service—with no sign of break-down of the coating or damage to the tank. Used in secondary petroleum recovery practice, the tank contains a particularly corrosive solution of 7% caustic soda and 2.3% Calogen.

**This service record** is particularly impressive since the coating previously used gave only 3 months of protection. Coating was field applied.

**Hysol Coatings** are a new series of protective coatings which have outstanding resistance to practically all corrosive materials. No single coating is suitable for all applications—rather it is the practice of Houghton Laboratories to compound a coating for each specific corrosive application.

**With extensive laboratory** and pilot plant facilities, this company will prepare a sample coating designed to give maximum protection in your particular corrosive application.

*Write for technical data or a sample for your own testing.*

BREVITY—Identify by IEN - 8811 if you write the maker

# DO YOU KNOW?

**—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT**

*. . . add attraction—safety—service?*

*Ask* DIALCO
— what lamp to use
— how to use it
— what it will do
— what it will cost

**THIS MAY BE THE ONE**

Designed for low cost NE-51 Neon
• Built-in Resistor • Patented
• U/L Listed • Rugged

Catalogue Number 521308 — 997
for 110 or 220 volts.

**SAMPLES for design purpose NO CHARGE**

*NEW!* Write for the HANDBOOK OF PILOT LIGHTS.

Write us on your design problems.

*Foremost Manufacturer of Pilot Lights*

**The DIAL LIGHT COMPANY of AMERICA**
900 BROADWAY, NEW YORK 3, N. Y.

BREVITY—Identify by IEN - 8812 if you write the maker

# It's no trick to save money in your TOOL ROOM

**. . . 32 ALUNDUM Grinding Wheels are cutting costs in hundreds of tool rooms.** The unique grain shape of "32" gives faster cutting, cooler cutting, less dressing, longer wheel life.

The Norton Handbook on Tool Room Grinding tells you when to use "32" to cut costs and when to use the other Norton abrasives—ALUNDUM, 38 ALUNDUM and 57 ALUNDUM. Write for Form 835-IE.

**NORTON**

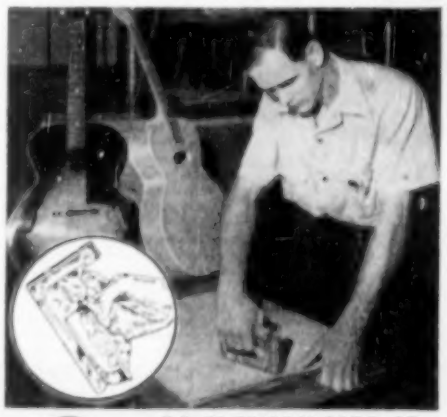
NORTON COMPANY, WORCESTER 6, MASS.
*Distributors in All Principal Cities*

BREVITY—Identify by IEN - 8813 if you write the maker

# HANSEN • THE TACKER with 1001 USES

ASSEMBLY of wood veneers is speeded up, saving time, labor and material, for Gibson Inc., Kalamazoo, Mich., with the Hansen Model T-2 Tacker. Tacking operation makes loading of hydraulic presses easier, improves handling and prevents veneers slipping.

In every conceivable industry, Hansen Tackers are making a record for themselves—automotive, radio, aviation, building, plastics, woodworking, shipping, display. What is your problem? Submit sample or sketch, with details.



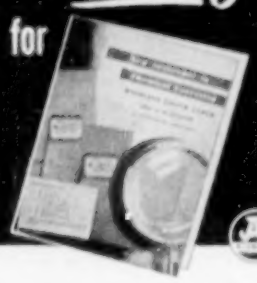
**A.L. HANSEN MFG. CO.**
5051 RAVENSWOOD AVE.
CHICAGO 40, ILL.

▼ BREEZIT—Identify by IEN - 8814 if you write the maker ▼

TO STOP CORROSION LOSSES

*Today it's Roebling!*

**Send now for this free bulletin**



HERE'S A BULLETIN that may show you how to stop or effectively reduce corrosion losses in screening and filtering operations. It describes Roebling's new wire filter cloth made of Hastelloy . . . cloth with an entirely new resistance to many acids, despite high temperatures and a wide range of concentrations. It also lists a wide range of corrosive media and indicates where Hastelloy alloys may be adopted for genuinely superior service. Write today.

**WOVEN WIRE FABRICS DIVISION**
JOHN A. ROEBLING'S SONS COMPANY
ROEBLING, NEW JERSEY
A CENTURY OF CONFIDENCE

▼ BREEZIT—Identify by IEN - 8815 if you write the maker ▼

For widest range of tension measurement

Eliminating heavy sand bags in testing wooden structures

Testing capstans. Simple application of Dillon for difficult job.

Determining strength of tripod winch by Dillon and chain hoist.

*Dillon*

**DYNAMOMETER**

**FOR EXTRAORDINARY, as well as ordinary tests, the Dillon usually provides a ready solution, from pulling anchored screws from stone walls, to determining torque of steel rod, the Dillon proves superior dependability in thousands of power tests. The preferred Dynamometer of America's leaders. Nine capacities, 500 to 20,000 lbs. Rugged construction, handily cased. Write for catalog and low prices. Prompt delivery.**

**W. C. DILLON & CO., Inc.** 5410-K W. Harrison St. Chicago 44, Ill., U. S. A.

▼ BREEZIT—Identify by IEN - 8816 if you write the maker ▼

*Alnor*

**Velometer**

Gives instant, direct reading of Air Velocity —Anywhere!

Here's a precision-built, self-contained, portable instrument that gives instant, accurate reading of air velocities—everywhere, in plants, mines or mills. Measures speed of flow through ducts, grilles, motors, furnaces, or in the open. Needs no calculations or reference charts. Anyone can use it and get accurate measurements. Available in a wide range of scales, and with a wide assortment of jets and fittings if needed. You'll want full details and prices, so write for Bulletin No. 2448-G. Illinois Testing Laboratories, Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Illinois.

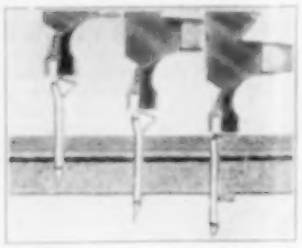
*Alnor*

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▼ BREEZIT—Identify by IEN - 8817 if you write the maker ▼

**FASTENING . . Cotter type nail clinches point when head is flattened**

Source: ELASTIC STOP NUT CORP.
2328-32 Vauxhall Road, Union, N. J.



**New design** of the company's stainless-steel self-clinching ES nail, previously described (IEN 3744-4), includes a sharper point and a stronger V-section channel in one leg into which the second leg fits. The nail drives in usual manner, to the last blow that flattens the head. This results in relative movement between the two legs to cause one of them to spread laterally in clinching action.

**The design** is intended primarily to secure asbestos shingles in ⅛ or ⅜ in. sheathing. It can be used at points where the sheathing is backed by wood such as studs and corner posts.

▼ BREEZIT—Identify by IEN - 8818 if you write the maker ▼

**ADHESIVE . . White liquid based on vinyl resin, for use on wood**

Source: ACORN ADHESIVE & SUPPLY CO.
1009-13 W. 11th St., Los Angeles 15, Calif.

**Packaged in ounces to 55 gallon drums**

**Willhold Glue** is a liquid adhesive that has been on the home market, now is offered for industrial use in completing wood assemblies. It is employed cold as supplied in its container and is spread to a thin glue line by brushing. Parts are then clamped together at about 25 lb. per square inch.

**Open time** should not exceed 10 minutes. Clamps can be removed from soft woods in 20 to 30 minutes when the joint will stand up under ordinary wood-working operations. Full strength is reached in about 24 hours.

▼ BREEZIT—Identify by IEN - 8819 if you write the maker ▼

**LIGHTING . . Incandescent fixtures, explosion proof and dust tight designs**

Source: PYLE-NATIONAL CO.
1348 N. Kostner Ave., Chicago 51, Ill.

**Series LE**, to the left in the illustration, is a new explosion-proof fixture, Class I, Groups C and D, for use in locations where highly inflammable materials are manufactured or handled. It employs a cast aluminum flame-tight housing in threaded assembly.

**Series DE**, to the right, is a dust-tight assembly with a one-piece aluminum housing and enclosing globe to exclude dust from the interior and avoid accumulation outside.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZIT—Identify by IEN - 8820 if you write the maker ▼

▼ BREEZIT—Identify by IEN - 8821 if you write the maker ▼

**BE POSTED on the LATEST in TOOLS!**

*GET FREE DURO-CHROME CATALOG*

**Duro-Chrome** Tools cooperate with men and management. Men like these tools. They're inviting to the touch, and so nicely balanced that they come to hand naturally and apply a man's skill to best results for years on end.

Many shop managements standardize on **Duro-Chrome**

Tools because it is a complete line, and various kinds of tools are to be had individually or in matched, balanced sets. For instance, there are more than 65 **Duro-Chrome** chisels, punches and drift pins, all related, one of several matched chisel sets is shown here.

ANOTHER **Duro-Chrome** BETTERMENT . . . is the "Hot Branded" Socket—for more accurate, much longer lived, 25 per cent stronger and designed for close quarters.

*dispose good Tools!*

**GET FREE 108-page CATALOG**

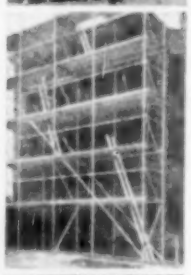
The colorful Duro Catalog is full of interest for mechanically-minded men. Be posted! Write for your copy now . . . DURO METAL PRODUCTS CO., 2649 North Kildare Ave., Chicago 39, Illinois.

**DURO-CHROME TOOLS**

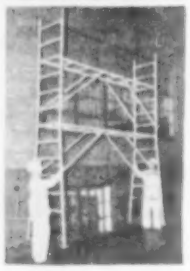
**FOR GRATIFYING PRODUCTION**

▼ BREEZIT—Identify by IEN - 8822 if you write the maker ▼

ALUMINUM made by Up-Right, Inc.



ALUMINUM made by Patent Scaffolding Co.



ALUMINUM made by Universal Scaffolding Co.

ALUMINUM made by Safway Steel Products, Inc.

**light work is fast work**

Cutting erection time up to 75% isn't surprising when you realize that scaffolds of Alcoa Aluminum weigh half as much as ordinary units. Even the larger sections can be erected in 20 minutes by 2 men. Quickly moved on the job . . . easily loaded and unloaded from your trucks, they often pay for themselves in savings from a single job.

For a list of manufacturers, write: ALUMINUM COMPANY OF AMERICA, 1421J Gulf Bldg., Pittsburgh 19, Pennsylvania.

ALCOA

**ALCOA** FIRST IN ALUMINUM

BRIEFITS—directly by IEN - 8824 if you write the maker

# How'd you like your shapes today?

We serve your light metal shapes any way you want 'em, at lowest cost ... roll-formed or extruded.

We also custom-make shapes quickly and accurately ... just send a precise drawing of the sections and data on quantity, alloy, lengths, finish, etc. You'll get unbiased advice on which type to use, for we make *extruded* shapes in aluminum ... *rolled* shapes in aluminum, stainless steel, brass, zinc, etc.

Secondary fabrication: polishing, punching, drilling, slotting. Fast delivery: strips, coils or cut to exact length.

*Free* Write us for money-saving Bulletin 18-10.

**R. D. WERNER CO., INC.**
295 Fifth Ave., New York 16, N. Y.
*Manufacturers of Metal Extrusions and Rolled Shapes*

BRIEFITS—directly by IEN - 8825 if you write the maker

**WHITE PORCELAIN**

# MILL JARS

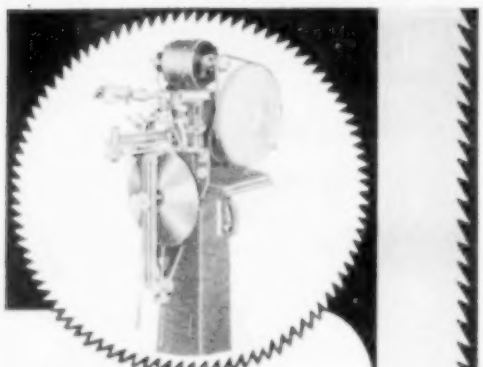
Fig. 774
Roalox Mill Jar

Made from tough-bodied white chemical porcelain. Wide mouth makes loading and unloading easy. Positive locking cross bar and lid is controlled by large non-slip hand wheel. Gasket comes out with the lid. Roalox Mill Jars are available for immediate shipment in six sizes: 1 quart, 2 quarts, ½, 2, 4 and 6 gallons. On the quart and two-quart size clamping arrangement differs slightly.

*Write for Catalog 300 showing our complete line of Jar Mills, Mill Jars, Ball Mills and other Grinding and Mixing Equipment*

**U. S. STONEWARE**
*Since 1865 • Akron, Ohio*

BRIEFITS—directly by IEN - 8826 if you write the maker



**Your SAWS are no better than your SAW FILING**

Inaccurate saw filing can ruin the cutting efficiency of the best saws, perhaps crack or break them. The machine precision of Foley Saw Filing can increase your sawing output 25% to 40%. The Foley automatically joints the saw so it is filed, setting all teeth accurate in size, height, spacing. Foley filed saws run cooler, cut fast, do beautiful work—and stay sharp longer.

**30-DAY TRIAL** of the Foley Saw Filer is offered—to show you what a difference Foley-filed saws can make.

**FOLEY *Automatic* SAW FILER**

FOLEY MFG. CO., 3569 N. E. 5th St., Minneapolis 18, Minn. Please send literature on the Foley Automatic Saw Filer and details of your 30-Day Trial.

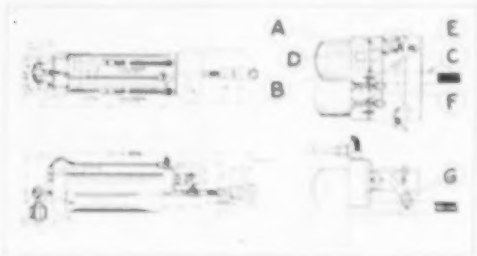
Name _____

Address _____

BRIEFITS—directly by IEN - 8827 if you write the maker

## CONTROL . . Pneumatic cylinder, diaphragm and spring for positioning

Source: BROWN INSTRUMENTS DIV.
Roberts & Wayne Aves., Philadelphia 44, Pa.



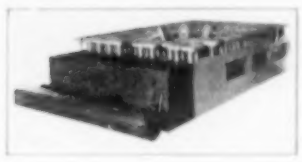

**Grad-U-Motor** is a new assembly of spring return, single-acting pneumatic cylinder with a spring backed regulating diaphragm by which the piston can be moved to a required position to hold there until changing conditions call for a new position. Damper positioning, throttle adjustment for pack and piston are examples for application. The assembly provides a 4½ in. power stroke and measures 18¾ in. between eye end pin connections. Head diameter is 7⅝ inches. Operation is on 80 to 150 lb. air pressure.

**Control air** acts on the diaphragm A and is opposed by the spring B as determined by the position of the piston rod C. The spring bears on a lever D controlling valves E and F for the positioning air and the supply air respectively. The air is admitted to the cylinder at the left hand end or released from it through the valves as long as the forces between the diaphragm and the spring are unbalanced. Any movement by the piston carries with it a positioning linkage G to compress or extend the control spring and thus tend to rebalance the diaphragm. At this point control air is shut off and the piston comes to rest.

BRIEFITS—directly by IEN - 8828 if you write the maker

## HEATING . . Multiple assembly of 4 by 6 in. burner heads for gas

Source: IRON FIREMAN MFG. CO.
3168-72 W. 106th St., Cleveland 11, Ohio



**Series GCV** is a new gas-fired burner that includes an assembly of rectangular burner heads in a manifold and draft box to introduce into the adapter space of a previously coal-fired boiler or furnace. Each assembly is supplied to fit given firebox dimensions. Sizes start with a unit employing 12 of the 4 by 6 in. heads in an arrangement two heads wide and six from front to back. This assembly measures 12 by 24 by 13 in. in the burner area. It is 36 in. in overall length front to back.

**The largest** in the standard line assembles 12 rows of heads each row containing 24 burner units. Dimensions of the burner area of this assembly are 72 by 36 inches. Height is 36 inches. Output rating is 300,000 btu. for the smallest unit, 3,000,000 btu. for the largest, based on 3½ in. of gas pressure. Zone control can be set up with step action in which one section of the burner will come on after another as heat demand increases.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 39*

BRIEFITS—directly by IEN - 8829 if you write the maker

# GLASS CYLINDERS

**Can you use them in your product?**

For dispensers, merchandise displays, visible hoppers, lighting fixtures, sight feeders, meters, columns or any other applications, DUNBAR offers you a wide variety of cylinder sizes in economical quantities. Or we will fabricate blown glass cylinders to your specifications. We invite your inquiries. Write Dept. 501 for our Glass Cylinder catalogue No. C-51.

*Dunbar Glass Corporation*

DUNBAR, WEST VIRGINIA
NEW YORK CHICAGO CLEVELAND LOS ANGELES

BRIEFITS—directly by IEN - 8830 if you write the maker

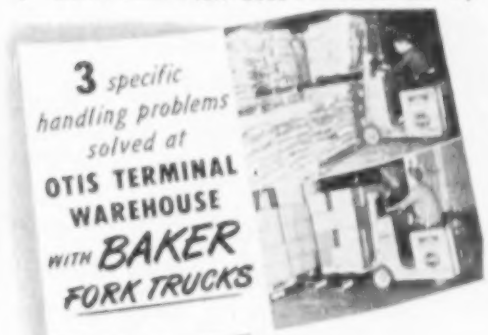
BRIEFITS—directly by IEN - 8831 if you write the maker

**NEW! STAINLESS STEEL BODY**

makes a good steam trap better . . . at no increase in cost to you. Means reduced maintenance for the trap that gets equipment hotter, sooner and keeps it hot! Over 600,000 Yarways already installed! Sold by distributors throughout the world.

**YARNALL-WARING CO.** 122 Mermaid Ave., Phila. 18, Pa.

BRIEFITS—directly by IEN - 8832 if you write the maker




This large Cleveland warehouse handles about 17,000,000 lbs. of merchandise per month. Approximately 75% of this tonnage is handled by two Baker FO flight-weight, low cost Fork Trucks—used for unloading, storing and loading—solving three specific handling problems:

1. Smooth operation has materially reduced breakage of fragile merchandise.
2. Electric power has made mechanized handling possible in certain confined areas.
3. Maintenance costs and down time of handling equipment have been substantially reduced.

Efficient use of Fork Trucks has kept operating costs in line. High tiering achieves maximum capacity from storage areas.

*Learn how Baker Trucks can solve similar handling problems in your plant or warehouse.*

**BAKER INDUSTRIAL TRUCK DIVISION**
of The Baker-Raulang Company
1226 WEST 80th STREET • CLEVELAND 2, OHIO

**Baker INDUSTRIAL TRUCKS**

BREVITY—Identify by IEN - 8833 if you write the maker

## The Tool You'll Buy on Sight

*Milwaukee*

**HOLE-SHOOTER**

2-speed "Right-Angle" Drill has many applications

See complete Kit below

No other "Right-Angle" drill made, at any price, gives you suitable speeds and power for drilling in wood, metal, masonry, concrete, tile. Hole-Shooter's time-saving performance in close quarters alone, soon pays its cost. Wt., only 9 lbs. . . . full ½ H.P. Top-quality . . . an amazing value. Write—Milwaukee Electric Tool Corp., 5360 W. State St., Milwaukee 8, Wis.

***Milwaukee Tri-Speed Kit "412" includes . . .***

1. 8-412 ½" HOLE-SHOOTER, ball and roller bearings. Jacobs geared chuck, 450 R.P.M.
2. *2-speed "Right-Angle Drive"—low speed, 300 R.P.M.; high speed, 675 R.P.M.
3. 3 special bits — ¼", 1¼", 2-9/16".
4. Special wrench for speedy adjustment of "Right-Angle Drive" and chuck.

Complete Kit **$87.00**

*Pat. Pending

***Milwaukee*** **QUALITY TOOLS**

BREVITY—Identify by IEN - 8834 if you write the maker

# FREE BOOKLET

## ON RUBBER CABLES

*for underground and aerial use*

Looking for an insulated cable that can be used for primary or secondary distribution, overhead or underground, for direct burial or in ducts?

Looking for a cable that can be run up a pole and, when supported from a messenger, used as an aerial cable . . . to simplify your problems of stocking and inventory to a few sizes of one type of cable?

SEND FOR THIS FREE BOOKLET! It contains 16 pages of facts about Simplex Anhydrex SA Cables — the cables with the low-water-absorption rubber insulation that makes it unnecessary for you to depend any longer upon cumbersome, heavy lead-sheathed cables.

Described in detail are Simplex Anhydrex SA Cables for underground use . . . for aerial use . . . for signal and control—plus complete test data. Also included are charts showing power circuits for various-sized single- or multiple-conductor cables.

Included are simple drawings and directions you'll find helpful for splicing single- and multiple-conductor jacketed cable. Also included are directions for single- and multi-conductor "T" splices and for terminating — single- and multi-conductor cable.

***For your free copy, just fill in and mail the coupon below:***

*You get the best of everything electrical Via Graybar*

IN OVER 100 PRINCIPAL CITIES

GRAYBAR ELECTRIC COMPANY, INC. 5074
Graybar Building
420 Lexington Avenue, New York 17, N. Y.

Please send me my free copy of booklet on Simplex Anhydrex SA Cables.

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

BREVITY—Identify by IEN - 8836 if you write the maker

## TESTING . . Hand pump and gage for hydrostatic tests to 300 pounds

Source: RICHARD DUDGEON INC.
Bergen St. & Grand Ave., Brooklyn 16, N. Y.

**Model 3** is a new assembly of hand-operated pump, pressure gage and ¼-in. suction and pressure hose lines each 6 ft. in length. The pump employs a bronze cylinder and ¼-in. non-corrosive valves. The hose lines carry the required fittings. Height is 12 in. overall. The pump lever measures 19 inches.

BREVITY—Identify by IEN - 8837 if you write the maker

## INSULATING . . Light-weight board, semi-rigid wood fiber for heat, sound

Source: MASONITE CORP.
109-13 W. Washington St., Chicago 2, Ill.

**Cellufoam**

**AirRow**

**Cellufoam** trade names an industrial insulating material in the form of a semi-rigid board that has been proofed against mold and fungus and that is able to carry its own weight. It is "foamed" from wood fibre to contain a multitude of dead air cells. The board can be covered on one or two sides with cotton scrim. It can be laminated, dyed, compressed, die-cut, sawed or cut with rotary knives. It has recently been flame-proofed in a new process.

**Applications** include covering for ducts in air-conditioning installations, inner lining for telephone booths, linings to prevent sound transmission in refrigerating equipment, padding for chairs, protection against breakage in shipping cases. Thickness ranges from ⅛ to 1¼ inches. Board sizes are from 24 by 36 in. to 48 by 48 inches. The new flame-resistant material is for installations where fire is a factor to be considered; otherwise the new material has the same characteristics as the form initially developed some time ago.

BREVITY—Identify by IEN - 8838 if you write the maker

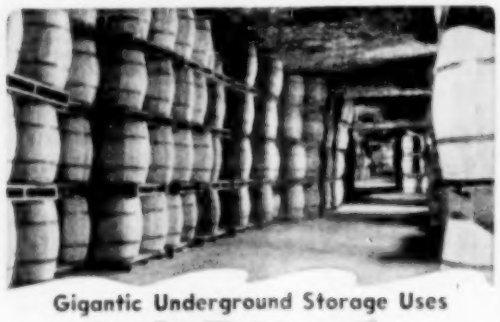
## WELDING . . Grounding clamp for arc welders has 300 amp. rating

Source: LINCOLN ELECTRIC CO.
13020 Coit Road, Cleveland 1, Ohio

**Type GC-3** is a new plier-type spring operated clamp that weighs 1½ lb. and has a jaw spread of 2½ inches. It is made of pressed steel with copper-alloy jaws using a material trade named Lincalloy. The unit is a companion design to Type GC-5 which rates 500 amperes.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 8839 if you write the maker



## Gigantic Underground Storage Uses Frick Refrigeration

Originally a limestone quarry, the Natural Cooler Storage of the U. S. Dept. of Agriculture near Atchison, Kansas, is one of the largest refrigerated warehouses in the world, having capacity for 3,000 carloads. A temperature of 32 degrees F. is held in the great cave by two Frick 4-cylinder compressors, driven by motors totaling 500 horsepower.

Frick Compressors with Motors Totaling 500 Horsepower, at Natural Cooler Storage

For that important cooling job of yours, specify Frick air conditioning, refrigerating, ice-making or quick-freezing equipment.

**FRICK CO.** WAYNESBORO, PENNA. U.S.A.

Also Builders of Power Farming and Sawmill Machinery

BREVITY—Identify by IEN - 8840 if you write the maker

## It Pays to Specify EAGLE SPECIAL PURPOSE PADLOCKS

For all types of special purpose security, Eagle offers the experience and facilities to solve your individual problems. Below are described two special purpose padlocks that were developed by Eagle for specific needs:

**EAGLE LOCKER and BATH HOUSE PADLOCK No. 6508** A very strong 1½" padlock with 3 brass secure levers which insure top security. Self-locking spring shackle. 2 flat steel, nickel-plated keys to each lock.

**EAGLE HOSE HOUSE PADLOCK No. 04096H** A 1½" secure lever padlock with self-locking, spring shackle of easily broken brittle iron to meet underwriter's specifications. 2 flat steel, nickel-plated keys to each lock.

*Inquiries invited on padlocks to meet your special purpose needs.*

*America's First* Lockmakers—Since 1833

The EAGLE LOCK Company Terryville, Connecticut

BREVITY—Identify by IEN - 8841 if you write the maker

**NOW!** *a really new kind of time recorder*

THE **Cincinnati** CLIPPER

World's First and Only Consecutive Spacing, Up-the-Card Print Recorder

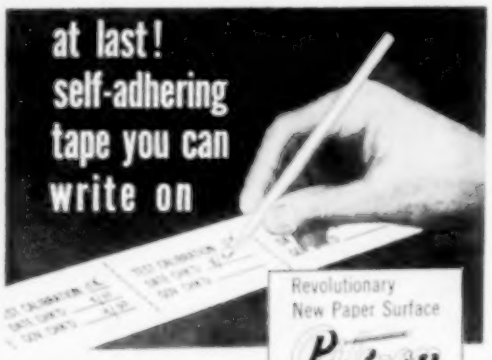
Cincinnati pioneers again . . . with a really new time recorder that furnishes payroll and job cost records consecutively "guard, up-the-card". This means "goodbye" to overprinting—faster, more accurate record and audit by direct subtraction! A host of other new features, too, for performance and reliability unequalled by any other recorder. Ask your CTR distributor for a demonstration.

FREE ON REQUEST—Bulletin CTR-1. A few more distributorships open. Write for details.

THE CINCINNATI TIME RECORDER COMPANY
Cincinnati 14, Ohio

Pioneers in the Development and Manufacture of Time Control Equipment Since 1890

BREVITY—Identify by IEN - 8842 if you write the maker



**at last! self-adhering tape you can write on**

Revolutionary New Paper Surface *Peel-on* pressure-sensitive TAPE

Thousands of industrial uses . . . Will speed up material handling, avoid errors, cut time and costs!

**FOR CODING, MARKING, PRICING, INSPECTION O.K.'s, ROUTING, FILING, WEIGHT or SIZE, IDENTIFICATION, etc.**

Available in printed rolls. (Perforated or unperforated.)

**TRANSPARENT PRODUCTS COMPANY, Inc.**
324 East 24th Street, New York 10, N.Y.
Foremost Creators of Printed Tape

▼ BREEZE—Identify by IEN - 8843 if you write the maker ▼

If you have, here's an easy way to get rid of them. Install Dunham Unit Heaters and quickly convert those cold, uncomfortable corners into more productive—and more profitable—space.

Dunham makes a complete line of heaters—horizontal and vertical discharge and cabinet models. There's a size and type exactly suited to your particular problem. Write today for complete information.

DUNHAM
HEATING MEANS BETTER HEATING

C. A. Dunham Co.,
400 W. Madison St., Chicago 6, Ill.
*In Canada:*
C. A. Dunham Co., Ltd., Toronto.
*In England:*
C. A. Dunham Co., Ltd., London.

▼ BREEZE—Identify by IEN - 8844 if you write the maker ▼

## "Lightnin' Mixers"
MIXCO* Engineered

On job after job, LIGHTNIN Mixers have cut process time *in half*—improved product uniformity—slashed manpower costs—simply by giving the correct agitation for the job. You can standardize on LIGHTNIN—because there is a LIGHTNIN Mixer for every fluid agitation job! Get the facts . . . write today for illustrated Catalog B-75.

### WHAT TO LOOK FOR IN A PORTABLE MIXER

**BALL-BEARING MOTORS** Semi-enclosed, totally enclosed, or explosion-proof, as required. One of the reasons for LIGHTNIN exceptionally long operating life.

**BALL AND SOCKET CLAMP** permits various mixing actions—rolling vortex, heavy rolling action, or LIGHTNIN two-way action. Mixer can be swung out of tank for cleaning.

**SEALED OUTBOARD BEARINGS** take the load of mixing shaft off the motor bearings. Permanently sealed to prevent leakage and contamination of the mix.

PROCESS ADAPTED AGITATION — LIGHTNIN MIXCO

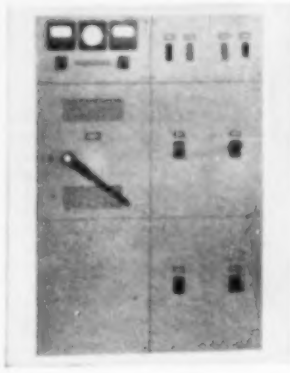
**SEND FOR THESE HELPFUL CATALOGS**
Lightnin Portable Mixers . . . Cat. B-75
Lightnin Propeller Mixers for Closed Tanks . . . . . Cat. B-78
Lightnin Side Entering Mixers for Tanks up to 3 Million Gals. . . . . Cat. B-76
Lightnin Turbine and Paddle Agitators; 1 to 200 HP, Cat. B-89

**MIXING EQUIPMENT CO., Inc.**
(MIXCO) 1021 Garson Ave., Rochester 9, N. Y.
*In Canada: William & J. G. Greey, Ltd., Toronto 1*
Representatives in Principal Cities

▼ BREEZE—Identify by IEN - 8846 if you write the maker ▼

## SWITCHBOARD . . Sectional assembly for electric distribution is flexible

Source: WESTINGHOUSE ELECTRIC CORP.
P. O. Box 868-A, Pittsburgh 30, Pa.



**Building Type** designates new distribution switchboard for circuits to 600 volts ac and for current-carrying capacity of individual circuit breakers from 15 to 4,000 amp, in continuous duty. The design is standardized, factory assembled, and is ready for installation and connection as shipped. It employs a universal structural frame including circuit breaker cell structures, mountings for the breakers, frames, and bus-supporting members.

**Two overall heights** are 75½ and 90½ in. Sixteen sizes of individual cubicles measure 16 by 30 by 15 in., to 48 by 90 by 75 in., in width, depth and height.

**Square hole punchings** at regular intervals in each of the components permits assembly by means of ⅝-in. carriage bolts to fit specified space and circuit requirements. It also permits future change on the job.

**Descriptive Bulletin**, 30-100, 12 pages, illustrates and describes the assembly, typical arrangements, tabulates breaker types and ratings, includes layout and dimensions.

▼ BREEZE—Identify by IEN - 8847 if you write the maker ▼

## SEALING . . Packing assembly for rotating and reciprocating shafts

Source: EMSCO DERRICK & EQUIPMENT CO.
P. O. Box 2098-A, Los Angeles 54, Calif.

**Pressure** from 10 to 3,000 lb can be sealed against leakage along a rotating or reciprocating shaft by packing-box application of this cartridge assembly of seal rings and steel spacers. It has been in service in the oil fields for the past two years, now is offered on specification to original equipment manufacturers. Shaft diameter can range upward from 1 in., the largest to date being 10 inches. The material now employed in the ring construction is good for temperature to 400 deg. F. and for surface speed of the shaft it seals to about 500 fpm.

**Each assembly** consists of a required number of the seal rings and steel spacers, all permanently cemented together to form the cartridge unit. The design will fit in only the correct position, cannot be reversed. The pressure being sealed holds the ring lips in contact. The outer body takes the load.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10*

▼ BREEZE—Identify by IEN - 8848 if you write the maker ▼

## WHAT DO YOU NEED IN *Materials Handling Containers?*
### POWELL DESIGNS AND BUILDS FOR ANY JOB OF ANY MATERIAL

How much do you spend moving material through your plant? Special handling containers go a long way toward lowering these costs by saving machine and truck operations many hours each week. Powell containers are designed and built to fit your special operation—and Powell prices will give you a pleasant surprise.

Let Powell look over your operation. No obligations. Offices in principal cities.

**POWELL**
PRESSED STEEL
Dept. 47 Hubbard, Ohio
(In Greater Youngstown)

▼ BREEZE—Identify by IEN - 8849 if you write the maker ▼

## Accurate-Dependable Batching
*of light or heavy liquids*

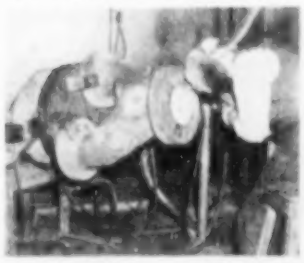
Complete Jacketed Pipe Systems for All Liquid Handling Problems

The FLUIDOMETER System is an accurate, dependable, automatic metering equipment for the batching of either light or heavy liquids. The FLUIDOMETER resets automatically. There is no lost time resetting metering controls, no errors due to incorrect resetting. Invaluable in large scale production work requiring steady repetition of operations. Available in jacketed construction for maintaining uniform temperature in process pipes. Write for new bulletin FL-49.

HETHERINGTON & BERNER INC. · 725 Kentucky Ave., Indpls. 7, Ind.

**FLUIDOMETER**
*Automatic Metering System*

▼ BREEZE—Identify by IEN - 8850 if you write the maker ▼



## Cut Welding Costs...
### make him a full-time welder

When your welder has to stop work to prop or flop the work piece—or to climb all over a large piece . . . *that's* money out the window.

A Worthington-Ransome Positioner increases arc-time by tilting or rotating the work into position for continuous, economical downhand welding.

Welds are *better*, too—deeper penetration with higher current and heavier electrodes.

Capacities from 100 lb to 20 tons. Also: Turning Rolls from 3 to 75 tons, stationary and self-propelled.

Write for Bulletin 110C, Worthington Pump and Machinery Corporation, Welding and Assembly Positioning Equipment Division, Dunellen, N. J.

**WORTHINGTON**

WORTHINGTON-RANSOME WELDING POSITIONER

▼ BREEZE—Identify by IEN - 8851 if you write the maker ▼

## WHITNEY CHAIN
*Takes the Problem out of your Power Drive Designs*

Because Whitney Chains are extremely flexible and adaptable to a wide variety of designs, they meet practically all transmission requirements. Their positive grip delivers full power without slippage . . . assures uniform speeds. Their rugged construction and hardened-alloy-steel parts provide maximum service with low maintenance. Investigate Whitney Chains and Cut Tooth Sprockets . . . the *all steel drives* for your designs and equipment. Write:

**WHITNEY CHAIN COMPANY**
202 Hamilton Street Hartford 2, Connecticut

▼ FREE!!!—details by IEN-8852 if you write the maker ▼

# Small AUTOMATIC Counters

Great dependability, small space requirement, tamperproof construction and Low Cost. The ideal combination in Mechanical and Electric Counters for built-in applications.

Speeds to 600 CPM. Non-reset. SMC Stroke Counters furnished with any required shaft extension and operating arm. MERCURY Electric Counters furnished for any required voltages, either AC or DC. Send application details for sample.

*Send for catalog describing Stroke and Revolution Counters, Coil Winding Counters, Panel mounted Electric Counters, Automatic Electric Batch Counters and Counter Actuating Switches.*

**Production Instrument Company**
700-10 W. JACKSON BLVD., CHICAGO 6, ILL.
**Representatives in Principal Cities**

▼ FREE!!!—details by IEN-8853 if you write the maker ▼

# Abart SMALL SPIRAL BEVEL GEARS

**precisely cut to your needs**

Each Abart Gear is accurately cut to meet the individual requirements of the work it must perform. NO STOCKS. Abart Gears are long-life—dependable—economical. Available in any gear material metallic or non-metallic. Send B.P. specifications or drawings today for prompt quotation. Our engineers will assist with any special problem.

WRITE TODAY FOR NEW ABART GEAR BULLETIN.

**Abart GEAR & MACHINE CO.**
4823 W. 16th Street Chicago 50, Illinois

▼ FREE!!!—details by IEN-8855 if you write the maker ▼

## PROTECTING . . Plastic mask and hood guards worker against splashing acid

Source: INDUSTRIAL PRODUCTS CO.
2301 N. Fourth St., Philadelphia 33, Pa.

**Aluminum frame**, seamless hood and cape of transparent treated Vinylite and an adjustable headgear make up the assembly of this new No. 7V Nitrogasket Acid Mask. The plastic window is resistant to impact. It measures .06 in. in thickness and can be replaced. The cape extends down around the shoulders.

▼ FREE!!!—details by IEN-8856 if you write the maker ▼

## CASTER . . Swivel and rigid design made of steel, 4, 6, 8, 10 in. sizes

Source: RAPIDS-STANDARD CO.
142 Rapistan Bldg., Grand Rapids 2, Mich.

**Series 500** is a new forged steel caster for trucks, dollies, portable equipment in which the ball race in the swivel design is flame hardened. The wheels measure 2½ in. in tread width. The top plate measures 3½ by 7¼ inches. Additional designs employ wheels made with molded rubber tires, plastic, Vitrite.

▼ FREE!!!—details by IEN-8857 if you write the maker ▼

## CYLINDER . . Miniature pneumatic, ⅝ in. stroke, 75 lb. on 100 lb. line

Source: AIR-MITE
2653 W. Lake St., Chicago 12, Ill.

**Vertical unit** has been added by the company to its long-useful spring return cylinder previously described IEN-8742 at. Material is brass for stock. Extended applications are in small jigs and fixtures for work holding and ejection. Air connections are from the fitting at one end of the unit.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10*

▼ FREE!!!—details by IEN-8859 if you write the maker ▼

*Save paint . . . save time*

# SPRAY PAINT FROM THE ORIGINAL BUCKET

Let's cut out all the time-killing, paint-wasting mess of pouring paint from its bucket into a pressure tank. Let's get a gallon's worth of finish out of every gallon of paint you pay for. It's simple with a Graco Paintmaster.

The air-operated pump feeds paint *non-stop* from original bucket to spray-head. It mixes paint constantly as it sprays . . . keeps viscosity uniform . . . gives you better coverage . . . less paint waste.

You'll spend more time painting . . . less time mixing and cleaning with Paintmaster. Write for details.

See how complete 5-gallon Paintmaster unit fits over standard paint bucket. Paint is mixed in and sprayed from original container.

GRAY COMPANY, INC.
17 Graco Square
Minneapolis 13, Minn.

**GRACO** *Paintmaster*

▼ FREE!!!—details by IEN-8860 if you write the maker ▼

# MEASURE DIAMETERS

**QUICKLY EASILY**

HOBBY 21-P DIAMETER RULE

Especially designed for metal workers and mechanics, this standard 6-foot steel tape rule converts circumference measurements into diameters, up to 21 inches, or vice versa, with special graduations on upper edge of tape. Lower edge is graduated in 16ths. Is the same high quality as all Carlson Rules with these special features:

Swing Tip for inside measurements—10 second quick change blade without opening case. (Pat. No. 2510939)

Hobby 21-P—Boxed chrome case and etched steel blade—$1.50 Extra quick change blade—75c

Sold through Hardware and M.R. Supply Stores.

Makers of Rudy, Hobby, Chief and White Chief Rules.

**CARLSON & SULLIVAN, INC.**
MONROVIA, CALIFORNIA

▼ FREE!!!—details by IEN-8854 if you write the maker ▼

# Suzy the stock girl says . . .

**"Here's what I need to move materials faster!"**

Containers weighing 2/3 that of steel, only 1/7 as much as aluminum—and as tough as steel. Stacks, nests, hand carries, rolls, tows, lifts, dumps, tilts, stores, etc. Open ends and sides give better visibility, more access. Handles sidewalks, stairways, tight spots, rough terrain. Diamond Vulcanized Fibre Receptacles will not crack, splinter or peel. Smooth, hard surface resists snags or abrasive substances. Yet has "elephant hide" toughness to carry the heavy stuff. All types available—boxes, barrels, cans, trucks, etc. Put a ton in your plant, now, and discover what this can do. Send for descriptive booklet.

**C-D DIAMOND FIBRE RECEPTACLES**
CONTINENTAL-DIAMOND FIBRE CO., NEWARK 21, DEL.

▼ FREE!!!—details by IEN-8858 if you write the maker ▼

# heavy-duty racks

**...save time and floor space keep stocks in better shape**

Double Type

Floored and closed. These grips hold stock providing ample access to stock for hoisting, stacking, and bins, pipe, conduit, tile, pipe, bars, tubing, etc. Open ends and sides give better visibility. Handy sidewalks, stairways, tight spots, rough terrain. Stock accessible, difficult and hazardous. Take the case: **Double Type Rack** is self supporting and carried from one end. Sizes, 7" to 12" long, 10" to 24" wide, 200 lbs. **Wall Type Rack** can be grouped to store as much. Sizes, 7" to 12" long, 10" to 24" wide. **Adjustable Rack** is shelved and is made using 12" to 24" wide. Sizes, 7" to 12" long. Possibilities unlimited.

Write Dept. IEN today for free catalog and low low prices.

Adjustable Type

Wall Type

ENJOY ONE A "CHAMPION"
**CHAMPION**

**The WESTERN Tool & Mfg. Co., Springfield, Ohio**

▼ FREE!!!—details by IEN-8861 if you write the maker ▼

# More Threaded Holes per Tap with HY-PRO TAPS

Your cost per tapped hole is much less when HY-PRO Ground Thread Taps are used. When tapping at high speeds these high production taps will usually produce at least SIX TIMES AS MANY HOLES AS A CUT THREAD TAP! In addition, they require only about one fifth the sharpening for the same number of holes, and are less easily broken.

ORDER THRU YOUR DISTRIBUTOR

Commercial • Precision • Special Ground Thread Taps

A Subsidiary of Continental Screw Co.

**HY-PRO TOOL CO.**
New Bedford, Mass. U.S.A.

▼ DIRECT—Identify by IEN-8862 if you write the maker ▼

Shown here are fabrications typical of the service provided by Naylor engineers. Special fittings, manifolds, piping and other equipment from single units to the most complicated layouts can be precision built to meet your most rigid requirements.

Write for details or send specifications for quotation.

**NAYLOR PIPE COMPANY**
1235 East 92nd Street, Chicago 19, Illinois
New York Office: 350 Madison Avenue, New York 17, N. Y.

▼ DIRECT—Identify by IEN-8863 if you write the maker ▼

# Want BETTER cutting at LESS COST?

## "TORCHWELD 75"

This is the torch that time after time is preferred in foundries, shops, metal salvage yards and plants where rough use and heavy work are the rule. Cuts ferrous metals up to 20-inch thicknesses with ease and speed. Because it cuts sharp edges and clean faces with an absolute minimum of kerf, it also cuts costs in time, materials and gas consumption.

No other torch has all the features of the famous "TORCHWELD 75"—Leakproof diaphragm high-pressure oxygen valve; Long smooth-action stainless steel control lever; Triangular tube construction for rigidity and extra strength; Accurate, durable needle-valve adjustments of improved stainless steel conical type; Safe tip-mixing principle of design with ample pre-heat and cutting capacities.

No wonder so many companies have standardized on "TORCHWELD 75"—the torch that's first in performance, gas-economy and low maintenance cost. Write for Catalog NTW-110 for additional details.

**Super-Duty Cutting Outfit No. 8**

Consisting of famous "TORCHWELD 75" Torch with Stainless Steel Head; No. 53 Cutting Tip (will cut up to 15-inch); 5902 Heavy-Duty Oxygen Regulator; 5905 Acetylene Regulator; two 25-ft. lengths Hose with Connections; Torch Wrench; Regulator Wrench; Friction Lighter; Goggles; Cutting Guide.

COMPLETE, nearest NCG office or dealer $99.60

*Write for Free Catalog NTW-110*

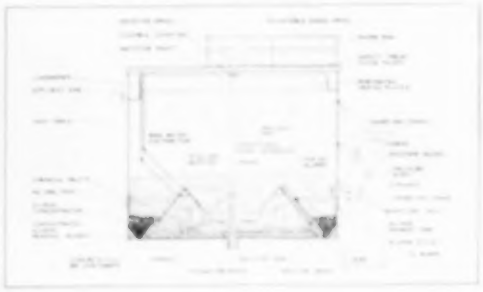
**NATIONAL CYLINDER GAS COMPANY**
344 North Michigan Avenue Chicago 11, Illinois

**NCG**
EVERYTHING FOR WELDING

▼ DIRECT—Identify by IEN-8865 if you write the maker ▼

## WATER TREATING . . Cold reactor employs sludge contact to treat water

Source: COCHRANE CORP.
3132 N. 17th St., Philadelphia 32, Pa.



**Water for process,** or for general industrial use, or water requiring treatment to remove impurities that can cause problems, is treated and delivered clear and softened by passage through this new Sludge-Contact Reactor. Action is based on the fact that sludge or slurry, from previously formed precipitates will accelerate thickening reactions.

**The new equipment** holds these precipitates in suspension to provide sludge at the point where the raw water and chemicals mix so a horizon is established on which newly formed precipitates plate out and grow. It sets up flow that results in gradual settling of the earliest sludge, and turbulent rise of the treated water. Excess sludge is drawn off at intervals through a timer-controlled valve near the bottom. The purified water passes out through a lamella-layer near the top.

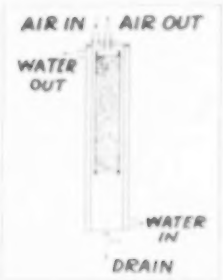
**Typical applications** include clarification of surface waters, lime or lime-soda softening of any hard water, clarification and softening of well water, coagulation and reflection of alkalinity, removal of silica and of dissolved iron, manganese, separation of blue stock and fiber from white water in paper mills, treatment of waste water to prevent pollution.

**Publication 5001,** 16 pages, presents illustrations, section drawings and detail explanation of the equipment, its operation and its available forms.

▼ DIRECT—Identify by IEN-8866 if you write the maker ▼

## SEPARATING . . Water cooled unit takes water, oil from compressed air

Source: GASFLUX CO.
196-200 Wayne St., Mansfield, Ohio




Type WE-630 is a new separator employing a Fiberglas cartridge in a water-cooled housing to separate entrained oil and water from compressed air. The water-cooling reduces temperature of the air to prevent combustion in holding lines near a compressor. The Fiberglas provides a mechanical barrier that prevents passage of the oil or water which precipitates in the housing for periodic removal. The outer shell is 6 in. in diameter.

*All Makers of These and All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 9*

▼ DIRECT—Identify by IEN-8867 if you write the maker ▼

# INVINCIBLE
**Flux Recovery Systems**

*Quickly Repay* their costs

Automatic, continuous-flow Flux Recovery System

On submerged arc welding jobs, Invincible Flux Recovery Units save money by: **1** Salvaging *all* unfused flux, **2** Operating far more efficiently than manual methods, **3** Reducing welding rejects by removing all fine dust (flux flour).

Write for FREE FOLDER on FLUX RECOVERY SYSTEMS

**INVINCIBLE VACUUM CLEANER MFG. CO.**
DOVER, OHIO

▼ DIRECT—Identify by IEN-8868 if you write the maker ▼

**NOW! A wiping tissue 100% grit-free**

To make your cleaning operations efficient—economical, Fresh! Soft! Disposable! Kimwipes* industrial wiping tissues. Polish finished surfaces without scratching. Blot up to 15 times their weight in liquids. And so inexpensive, you can use a new tissue every time.

*Write for further information and name of the Kimwipes distributor nearest you.*

Kimberly-Clark Corporation, Neenah, Wisconsin

▼ DIRECT—Identify by IEN-8869 if you write the maker ▼

# GET RID OF AIR ACCUMULATIONS IN PIPE LINES...

*A BIG TROUBLE SAVER THAT COSTS YOU LITTLE!*

When air lodges at high spots in pipe lines, it reduces the effective area of the pipe, creates a friction head, lowers pumping capacity, and may result in serious water hammer!

Simplex Air Release Valves bring you a sure, efficient cure for these difficulties . . . venting air *automatically* before it can cause damage. And you pay for a standard valve—

**ONLY $29.50** F.O.B. Works

Write for free bulletin to Simplex Valve & Meter Co., Dept. Y, 4717 Upland Street, Philadelphia 42, Pa.

The Simplex Air Valve is easily installed . . . positive in action . . . ample in capacity. Standard valves for pressures up to 250 p.s.i. . . . special valves for pressures up to 800 p.s.i. Thousands have been in successful use for over 30 years.

*IT'S SIMPLEX IT'S ACCURATE*

**SIMPLEX**
VALVE AND METER COMPANY

▼ DIRECT—Identify by IEN-8870 if you write the maker ▼

# TEMPILSTIKS°

*the amazing Crayons that tell temperatures*

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

**$2** each

IT'S THIS SIMPLE!
- Select the Tempilstik° for your working temperature.
- Mark your workpiece with it.
- The Tempilstik° will leave a liquid mark as soon as the selected temperature is reached.

| Available in these temperatures (°F) | | | | | | |
|---|---|---|---|---|---|---|
| 113 | 213 | 313 | 450 | 800 | 1250 | 1600 |
| 125 | 225 | 325 | 500 | 900 | 1300 | 1700 |
| 138 | 238 | 338 | 550 | 950 | 1350 | 1750 |
| 150 | 250 | 350 | 600 | 1000 | 1400 | 1800 |
| 163 | 263 | 363 | 650 | 1050 | 1450 | 1850 |
| 175 | 275 | 375 | 700 | 1100 | 1500 | 1900 |
| 188 | 288 | 388 | 750 | 1150 | 1550 | 1950 |
| 200 | 300 | 400 | 800 | 1200 | 1600 | 2000 |

Also available in paste and liquid form.

Gives up to 2000 readings

TEMPIL CORPORATION
132 W. 22nd St., New York 11, N. Y.

**FREE**—Tempil° "Basic Guide to Ferrous Metallurgy" on 18½" by 27" plastic laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

BREVITY—Identify by IEN - 8871 if you write the maker

# Convenience, Speed and Low Operating Cost,

## Spell Profit

Any job you can do on the SHELDON Size "O" Milling Machine is a high profit job because this small, fast machine costs so little to own and operate. And, much of the milling work in most shops is well within the capacity of this easy handling money maker.

Keep your big milling machines for big work, but be sure to have one or more of these smaller faster tools for extra profit on your ordinary tool room jobs.

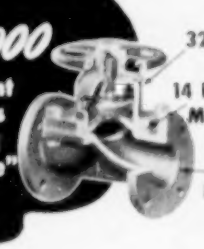
Write for complete Catalog which includes specifications and attachments.

SHELDON
CHICAGO

Sheldon Machine Co., Inc., 4208 N. Knox Ave., Chicago 41, USA

BREVITY—Identify by IEN - 8872 if you write the maker

Hills-McCanna offers Over 20,000 different assemblies for valving "hard-to-handle" fluids



32 Bonnets
14 Diaphram Materials
49 Body Materials

No matter how specialized your problem of valving corrosive and/or hazardous substances, slurries, viscous liquids, gases, fermentation products, materials subject to coagulation, foods or beverages, the chances are that Hills-McCanna can furnish the proper valve to meet your needs. Write, today, for full information and descriptive literature, HILLS-McCANNA CO., W. Nelson Street, Chicago 18, Illinois.

**HILLS-McCANNA**

*Saunders patent diaphragm valves*

*Proportioning Pumps*

*Force-Feed Lubricators • Magnesium Alloy Castings*

BREVITY—Identify by IEN - 8873 if you write the maker

*Get this*

**for file reference on small tubing availabilities!**

This handy four page file size folder describes the world's broadest line of seamless forms, sizes, etc. made by the largest manufacturer of specialty metal tubing. Anyone to whom tubing is an important component or who is contemplating use of tubing should have this folder handy. Superior offers you technology in small tubing. Send for Bulletin 31.

*Superior*

THE BIG NAME IN SMALL TUBING

All analyses .010" to ⅝" O.D.
Certain analyses .003" min. wall up to 1½" O.D.

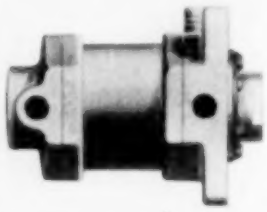
SUPERIOR TUBE COMPANY

2016 Germantown Ave., Norristown, Pa.

BREVITY—Identify by IEN - 8874 if you write the maker

## CYLINDER . . Double acting design, hydraulic, large diameter piston rod

Source: RIVETT LATHE & GRINDER INC.
20-24 Riverview Road, Brighton 35, Mass.



**New series** in the Gerotor line of hydraulic power cylinders, recently purchased by the company for manufacture and sale from Gerotor May Corporation, employs a piston rod considerably larger in diameter than the company's previous standard. The line includes ten bore diameters from 2 to 10 in. with standard piston rod diameter at 1 to 2¾ inches. The new design, known as Type 2-1, is fitted with rods measuring 1¾ to 7 inches.

**The larger rod** results in high speed on a return stroke for a given hydraulic oil delivery. It will support loads without danger of flexing and can be supplied with male or female end connection. The cylinder assemblies are available in five standard mountings and in any stroke length to 96 inches. Cushioning can be specified at one or both ends. Detail illustrated information is contained in 18-page Catalog Section 104.

BREVITY—Identify by IEN - 8875 if you write the maker

## TACHOMETER . . Centrifugal design has single range from 400 to 4,800 rpm.

Source: HERMAN H. STICHT & CO.
27 Park Place, Room 500, New York 7, N. Y.

**Model JP** is a new tachometer for portable hand use. It mounts a 3-in. dial behind a plastic face in its metal housing. The centrifugal mechanism is assembled on bearings that require no lubrication. Packaging is in a velvet lined carrying case with two interchangeable tips. Weight of the instrument is 19 ounces. Speed is indicated with shaft rotation in either direction. Operation of the instrument is independent of magnetic or temperature changes.

BREVITY—Identify by IEN - 8876 if you write the maker

## MANAGEMENT . . Booklet of facts on what the individual should know about saving money

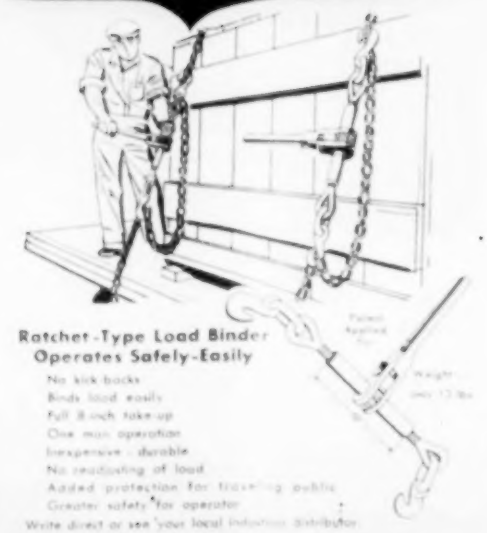
Better Business Bureau
726 Chrysler Bldg., New York 17, N. Y.

**Latest of a series** of Fact Booklets published by the Bureau's Educational Division is titled, "Facts You Should Know about Saving Money". It has 16 pages, lists at 5 cents. It covers topics such as why save, put your savings to work, how much to save, where to save, savings institutions.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

BREVITY—Identify by IEN - 8877 if you write the maker

## A NEW Standard for LOAD-BINDERS



**Ratchet-Type Load Binder Operates Safely-Easily**

- No kick backs
- Binds load easily
- Full 8-inch take-up
- One man operation
- Inexpensive - durable
- No readjusting of load
- Added protection for traveling public
- Greater safety for operator

Write direct or see your local industrial distributor

*American* FORGE AND MANUFACTURING CO.
812C Shore Avenue • Pittsburgh 12, Pa.

BREVITY—Identify by IEN - 8878 if you write the maker

**THERMALLOY* can help you CUT HEAT-TREAT COSTS**

Whether it's a standard fixture, tray, retort or muffle—or a specially designed unit or part—investigate THERMALLOY'S heat and abrasion-resistant properties and low unit cost per operating hour. Call your nearby Electro-Alloys engineer, or write Electro-Alloys, 1951 Taylor St., Elyria, Ohio.

*Reg. U.S. Pat. Off.

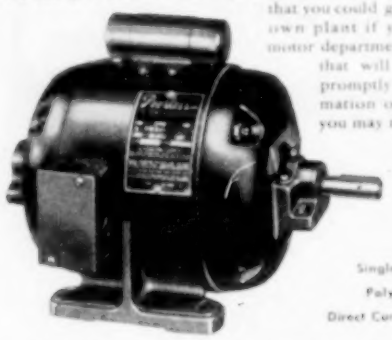
AMERICAN Brake Shoe COMPANY — ELECTRO-ALLOYS DIVISION, ELYRIA, OHIO

BREVITY—Identify by IEN - 8879 if you write the maker

## MAKE PEERLESS ELECTRIC *your* MOTOR DEPARTMENT

• When you bring your motor problems to Peerless Electric, you add a motor department to your plant facilities. Peerless is small enough to give individual engineering attention to your motor requirements—large enough to manufacture the motors you need in any quantity.

We can give you the same quick action on special motors that you could get to your own plant if you had a motor department—action that will give you promptly the information or samples you may need.



Single Phase
Polyphase
Direct Current Motors

THE PEERLESS ELECTRIC COMPANY • WARREN, OHIO

*Manufacturers of Quality Motors for more than 55 years*

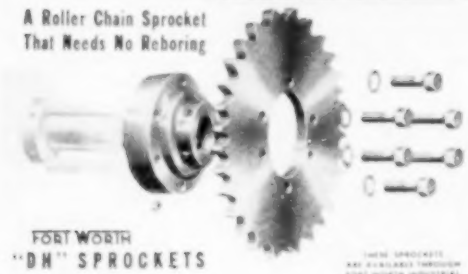
*Peerless-Electric* MOTORS-FANS-BLOWERS

BREVITY—Identify by IEN - 8880 if you write the maker

## FORT WORTH DH ROLLER CHAIN SPROCKETS

DEMOUNTABLE HUB

A Roller Chain Sprocket That Needs No Reboring



FORT WORTH "DH" SPROCKETS

- Reduces replacement costs
- Replacing "DH" plates only—saves money
- Steel sprocket at cast iron prices
- Speed changes easily made at a saving
- Same hub used for "DH" sprocket and BoltRim Sheaves

FORT WORTH STEEL AND MACHINERY CO
3600 McCART, DEPT. 105, FORT WORTH, TEXAS

HOUSTON · LOS ANGELES · KANSAS CITY · ST. LOUIS · CHICAGO · MEMPHIS · ATLANTA · DALLAS

IEN - 8881

Interlocking wires lace together to form a continuously flat and extremely flexible open mesh conveyor belting. Simple to install, it is positively driven, easily guided, readily cleaned and quickly repairable.

*Available in stainless steel, it can be supplied in light or heavy gauges, and in widths from 2". Special sizes, designed to your specifications, can be supplied at no extra charge. Most belts can be delivered from stock.*

For typical applications and illustrated uses, write:

**WIRE BELT COMPANY**
**OF AMERICA**
750 Main Street, Cambridge 39, Mass.

IEN - 8882

# PANGBORN Hydro-Finish

*Prolongs Die Life!*
*Saves Labor!*
*Eliminates Emery Cleaning!*

for ROCKFORD DROP FORGE CO.
Rockford, Illinois

*ROCKFORD DROP FORGE COMPANY* reports that Hydro-Finish increases die life by eliminating surface-disturbing emery cleaning at end of runs. Also they find costly hand polishing is cut to a minimum because it is now done before heat-treating. Hydro-Finish removes all heat-treat scale and leaves surfaces smoother than hand polishing and with closer tolerances. They claim that Hydro-Finish will pay for itself in savings in two to three years.

*HYDRO-FINISH* can simplify the manufacture and maintenance of tools, dies and molds for you. It reduces usual costly hand work and produces a surface virtually free from directional grinding lines. On the production line Hydro-Finish assures better bonding, electroplating, painting ... gives you the surface you want within .0001" with no pits, grooves or hard-to-clean imperfections left after processing.

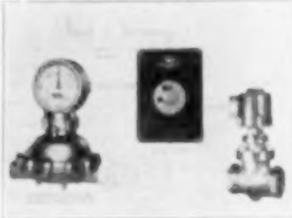
*FOR FULL INFORMATION* on the many ways Hydro-Finish can save you money, write today for Bulletin 1400A to: PANGBORN CORPORATION, 2300 Pangborn Blvd., Hagerstown, Maryland.

**Pangborn**
BLAST CLEANS CHEAPER
with the right equipment for every job

IEN - 8884

## FEEDING . . Meter control assembly delivers predetermined fluid quantity

Source: BUFFALO METER CO.
2929 Main St., Buffalo 14, N. Y.



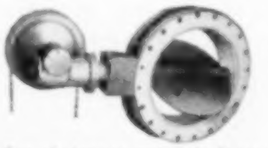
**Electrivolume** Control System is a new assembly of the company's Electrocontact liquid meter, impulse counter and solenoid valve to control delivery of desired quantities of a specified liquid and to reset automatically to zero ready for a succeeding start by push-button actuation as required.

**Upon delivery** of each unit quantity, a gallon, pound, quart, the meter actuates the impulse counter. It accumulates the impulses to the predetermined total and then closes the electric circuit to the solenoid valve to close the flow line. At the same instant the counter recycles back for the next start.

IEN - 8885

## VALVE . . Hinged vane design for air-transport lines, 2 to 72 in.

Source: R-S PRODUCTS CORP.
4528-32 Germantown Ave., Philadelphia 44, Pa.



**No. 737** is new rubber-lined design of the company's hinged-vane valve in which hard or soft, natural or synthetic rubber can be bonded on vane and body. The rubber provides resistance to wear due to flow of abrasive materials. It provides a cushioning tight seat in closed position. Operation is by a chain and geared head at one side of the main housing. Temperature range is between minus 40 and plus 275 deg. F. Pressure rating is 50 pounds.

IEN - 8886

## JACK . . Hydraulic cylinder, pump and accessories kit, rates 3 ton

Source: H. K. PORTER INC.
48-52 Foley St., Somerville 43, Mass.

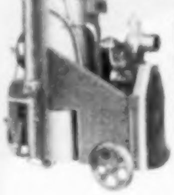
**Hydro-Midget** is a new kit assembly of 3-ton hydraulic cylinder and load piston, connecting line and hand-operated pump with an assortment of accessory units including chains, hooks, tow bases. The kit opens as shown in the illustration for selection of the required parts. It has carrying handles.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

IEN - 8887

# OPERATES INDEPENDENTLY of power source

**NEW** Gasoline Engine Powered



## HOFFCO-VAC #50 Vacuum Cleaning Portable

Now—for the first time—a heavy-duty portable that can be operated anywhere. Use it for fast, efficient cleaning where wiring expense would be excessive—in outdoor areas—in widely scattered plant locations—and anywhere else that ordinary cleaners could not be used.

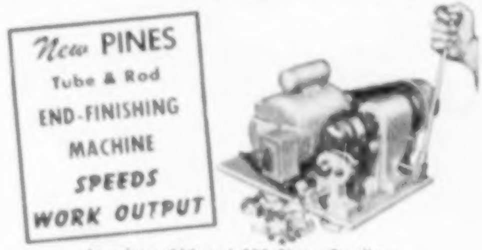
This 5 H.P. model provides 2-sweeper operating capacity and all other outstanding features of the electric motor driven Hoffco-Vac #50. Only exception is that power unit is a 4-cycle, single cylinder heavy-duty air-cooled engine rated at 6.8 H.P. (5.4 continuous). Flame-arresting type muffler.

7½ CUBIC FT. DUST STORAGE CAPACITY
BUILT FOR HEAVY DUTY SERVICE

WRITE FOR BULLETINS A-794 & 803

AIR APPLIANCE DIVISION
**U.S. HOFFMAN MACHINERY CORPORATION**
103 Fourth Ave., New York 3, N. Y.
Canadian Plant: Canadian Hoffman, Newmarket, Ont.

IEN - 8888




**Completes 500 to 1,000 Pieces Per Hour**

A broad range of end-finishing operations can now be handled with speed and precision on this new Pines bench-type end-finishing machine. It includes a new type mechanical chuck and chuck closing mechanism that cuts production time. Jaws are arranged for interchangeable split-type inserts to accommodate any length tube, pipe or rod.

**Profitable Uses**
- *Deburring*
- *Inside and Outside Chamfering*
- *Facing*
- *Center Drilling*
- *Drilling*
- *Reaming*
- *Single Point Boring*
- *Light Forming*
- *Turning*

**Brief Specifications**

**3 Operations in 1 Motion of Handle**

One movement of the operating handle quickly clamps the workpiece, removes the stock stop, and feeds the cutter to the work. Release of the handle returns the chuck to its original position and simultaneously unclamps the piece. Thus with *one hand free for loading the machine*, an operator can speed work output.

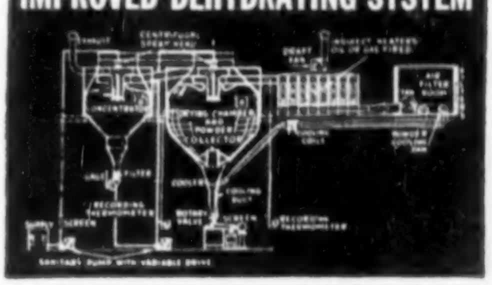
**For long-run work**, there's a fully automatic Pines Model with foot control to help you save additional time. Models up to 3" capacity are also available.

**Write for free bulletin**

PINES ENGINEERING CO., Inc.
Aurora, Illinois

IEN - 8889

# IMPROVED DEHYDRATING SYSTEM



## Centrifugal Spray Dryer and Concentrator

**For Dehydrating**
Chemicals
Pharmaceuticals
Blood or Blood Plasma
Milk Products
Eggs
Vegetables
Coffee and many other Products

● A complete spray drying plant employing a unique centrifugal type spray head. No high-pressure pump is used, and due to the design of the spray head, emulsions as well as solutions can be dried. No clogging or wearing of nozzles is caused by the suspended solids. The powder is collected and cooled in the drying chamber.

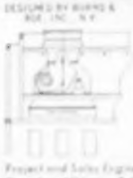
Concentrator can be operated as separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining natural flavors and vitamins.

*WRITE FOR FREE BOOKLET*
Attractive bulletin illustrates and describes spray drying plants; explains operation in detail. Shows plan views; application photos. Send for your FREE copy today.

**DRYING & CONCENTRATING CO., 332 S. Michigan Ave., Chicago, Ill.**

IEN - 8890

DESIGNED BY BURNS & ROE, INC., N.Y.



Here's modern industrial architecture at its best . . . a power plant with no protruding stacks.

This municipal power plant, close to the business district of Lansing, Michigan, was architecturally designed to give the appearance of a commercial building. Elimination of unsightly chimneys was accomplished by the use of specially designed P-D Fan Stacks, recessed into the actual building structure.

P-D Fan Stacks are a complete draft producing unit consisting of fan, breeching and stack, integrated to produce the highest efficiency attainable.

Project and Sales Engineers THE THERMIX CORP. GREENWICH, CONN.

**PRAT-DANIEL CORPORATION**
78-9 WATER STREET EAST PORT CHESTER, CONN.
*Designers and Manufacturers of Power Plant Equipment for Over 25 Years*

BREEZITS—Identify by IEN-8891 if you write the maker

What a Difference QUADRIGA Custom Fabricated Special WASHERS can make!

You'll find that Quadriga Washers, made exactly to your specifications, protect against wear, noise and vibration surprisingly better than check-that washers. That's because Quadriga Washers are better suited to your specific needs. Metallic and non-metallic washers supplied in a wide range of sizes and types. A wide selection of dies on hand for flat blanks, dished blanks, progressive and compound washers, materially lower your washer costs. Send B.P. samples or data for prompt estimate. Write for free technical catalog with valuable washer data today.

Quadriga Quality WASHERS — Also Metal Stampings

**THE QUADRIGA MANUFACTURING CO.**

215A W. Grand Ave. Chicago 10, Ill.

BREEZITS—Identify by IEN-8892 if you write the maker

# VULCAN

**ELECTRIC SOLDERING TOOLS**

7/16" 1/2" 5/8" 1" 1 1/8" 1 3/8" 1 5/8" 1 3/4"

**SCREW TIP**

Rebuilt built for day-long work. Cool wood handle with the "hang" or balance that makes work easy. Low operating cost.

A size for every soldering job—radio work — tinware — gutters — aircraft — metal cornices — refrigerators — ventilators — ventilating and air conditioning equipment — auto bodies, etc.

**VULCAN ELECTRIC COMPANY**

DANVERS 8, MASS.

Makers of Vulcan Electric Soldering Tools, Electric Solder-Pots, Electric Branding Irons and Electric Heating Units, including the new Vulcan 90 Series, for changing over any hot water heater to electric operation.

BREEZITS—Identify by IEN-8893 if you write the maker

# TAKE YOUR PICK

*from the most complete line of drop-forged wire rope and chain fittings*

Whether you want the famous Laughlin "Fist-Grip" Safety Clips — the Laughlin Safety Hook with the "latch that locks the load" — or any other wire rope or chain fitting, you can get what you want from Laughlin. Your Laughlin distributor will be glad to see that your order is promptly filled.

**SEND FOR FREE BOOK**

If you do not have a copy of the Laughlin Catalog No. 145, send for it now. Recognized as industry's data book, this 40 page catalog is packed with useful information that can be helpful to you. Write now for your free copy.

THE THOMAS LAUGHLIN COMPANY, Dept. 11, Portland 6, Maine

**LAUGHLIN**

THE MOST COMPLETE LINE OF DROP-FORGED WIRE ROPE AND CHAIN FITTINGS

BREEZITS—Identify by IEN-8894 if you write the maker

## PUNCHING . . Hand operated machine rates 2 in. hole through 16 gage steel

Source: O'NEIL-IRWIN MFG. CO.
318 Eighth Ave. S., Lake City, Minn.

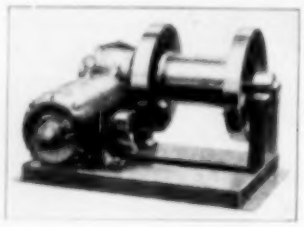
**New No. 2** punching machine has been added to the company as a companion unit to its 24-in. brake and shear, also hand operated precision machines. The punch will put holes in the center of any sheet that can be processed in these other units. Throat depth is 12½ inches. Vertical clearance is 9½ inches. The bed measures 6 by 7½ inches. Weight of the machine is 350 pounds.

**The ram** is triangular in section and is hardened and ground. The section holds punches against turning. Adjustable gages are included in the assembly. The company is prepared to supply a variety of interchangeable punches in round, square, oval and rectangular shapes. Matching dies are included.

BREEZITS—Identify by IEN-8895 if you write the maker

## WINCH . . Motor driven assembly rates single-line pull to 3,000 lb.

Source: KING MFG. CO.
3144-8 Chicago Ave., Chicago 22, Ill.



**Overload clutch** is built into the drum so this unit winds to slip if an overload is imposed. The arrangement suits the assembly particularly for merchandise-elevator service employing one or two patterns. Five models are included in the Series 300 line with single-line rating at 500 to 3,000 pounds. All operate at 100 fpm.

**Drive** is by a gear-connected 220/440-volt 3-phase 60-cycle ac motor rating 2 to 10 hp. Shafts are mounted on roller or ball bearings. Push button remote control can be specified.

BREEZITS—Identify by IEN-8896 if you write the maker

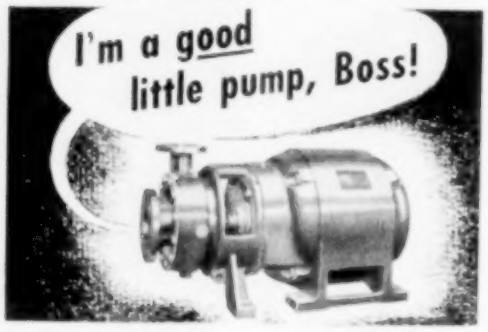
## WELDING . . Recommended practice to repair gray iron castings by welding

American Welding Society
33 W. 39th St., New York 18, N. Y.

**New standard**, developed particularly for the automotive industry, describes how to salvage gray iron casting by welding. The 24-page booklet, list price 50 cents, is designated as D8A-50E. It covers grades of cast iron, general considerations, repair welding, materials, stress relief.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10*

BREEZITS—Identify by IEN-8897 if you write the maker




. . . a "Compacunit" to be exact, small, but oh my . . . and I am ready to go to work for you here and now. Some of my qualifications are:

(1) Rugged frame with strong feet prevent misalignment
(2) Semi-labyrinth seal case ring giving greater clearance and insuring higher efficiency
(3) Bearing is heavy duty, angular contact duplex — longer life
(4) Shaft sleeve is slip fit and keyed for easy removal
(5) Plenty of hand room and priming and drain plugs for four positions
(6) 4 types—42 sizes—capacities 5 to 450 G.P.M.
(7) Immediate delivery of many sizes

I could tell you a lot more about myself and how I might fit into some of your pumping jobs . . . but I must leave something for my sponsors to say. Why don't you contact them?

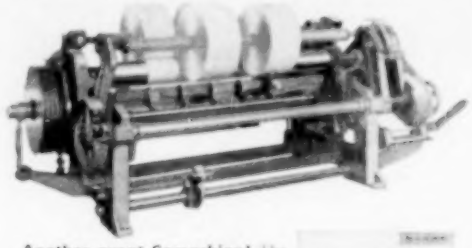
**WARREN PUMPS**

WARREN STEAM PUMP COMPANY, INC., 61 Bridges Ave., Warren, Mass.

BREEZITS—Identify by IEN-8898 if you write the maker

# Camachine® 28-30

**A fast slitter-rewinder specially designed to produce top-quality rolls of coated or tacky papers and fabrics**



**Another great Camachine!** The 28-30, featuring air-operated slitter, produces top-quality rolls of uniform density regardless of variations in the caliper of the material. Positive roll separation is assured by the use of two separate rewind shafts. Handles web up to 72" wide at speeds up to 500 f.p.m. Produces rewound rolls as narrow as 1" (or ½" with special slitter), and up to 30" dia. Write for Bulletin 2020.

CAMERON MACHINE COMPANY
61 POPLAR STREET • BROOKLYN 2, N. Y.

BREEZITS—Identify by IEN-8899 if you write the maker

# HAISS

FOR 57 YEARS BUILDERS OF HIGH QUALITY Material Handling Equipment

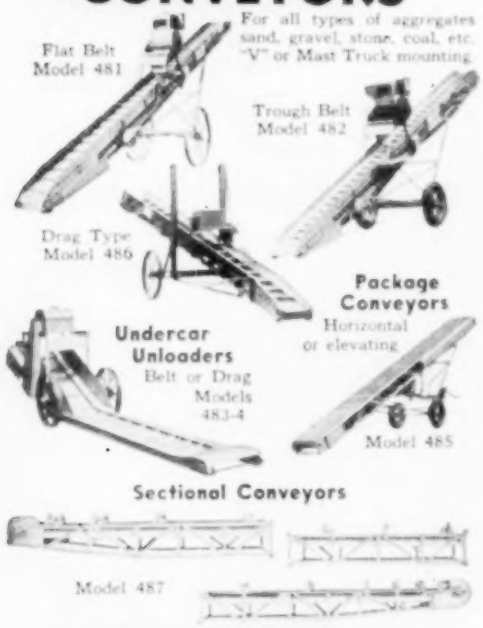
## •LOADERS

**Self-Propelled Self-Feed**

For digging and loading sand, gravel, stone, topsoil, coal, etc. Wheel or crawler mounted. Capacity 3 to 8 yds. per minute.

## •CONVEYORS

For all types of aggregates sand, gravel, stone, coal, etc. "V" or Mast Truck mounting.




## •BUCKETS

**Hi-Power Excavators**

**Multi-Sheave Rehandlers**

Capable Representatives in All Principal Cities

GEORGE HAISS MFG. CO., INC. — PETTIBONE MULLIKEN CORP.
2410 to 2420 St. on Park Ave. NEW YORK 51, N. Y. Phone Mott Haven 5-2200
4700 W. Division Street CHICAGO 51, ILL. Phone Spaulding 2-5300

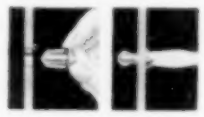
HAISS UNIVERSAL

BREVITY—Identify by IEN-8901 if you write the maker

## Have you a similar use for this 1-piece fastener?

It's a Shelf Support... For ranges or refrigerators in plastic and metal. Leading appliance makers have achieved substantial installation savings through it.

It's a Cabinet Door Strike... Simple to install, eliminates welding and cuts assembly cost. Any head can be designed without affecting fastening principle.



It's a Blind Rivet... Or a removable fastener. It locks and unlocks with a 90° clockwise rotation. No mating parts such as nuts or receptacles.

It's a Lifter Knob or Dashboard Plug... Plastic Spring-Lock heads are molded around steel inserts, giving strength at point of load or impact. Any shape head can be molded in any color.

### What's Your Application?

Tell us how you can use Spring-Lock Fasteners in your products. We'll be glad to work out the details with you.

Send for more data and Free Samples today

**Simmons Fasteners**

QUICK-LOCK • SPRING-LOCK
ROTO-LOCK

SIMMONS FASTENER CORP., 1758 North Broadway, Albany 1, N. Y.

BREVITY—Identify by IEN-8902 if you write the maker

## IMPORTANT NEW FACTS ON WIRE AND PIPE MARKING

If you mark pipe, wire, cable, conduit or terminals you should have this comprehensive new E-Z Code catalog that contains valuable ideas to save you time and money. Write for your free copy today!

FREE SAMPLES WRITE TODAY

Make an on-the-job E-Z Code test

E-Z Code Markers are quickly zipped off card by individual Speed Tabs, instantly applied without moistening. Stick permanently, even when pulled through conduit. Provide positive identification, even in dark corners. Available in 550 standard codes (including ASA and NEMA) or to your specifications.

WESTERN LITHOGRAPH CO., DEPT. IEN-9
E. SECOND ST., LOS ANGELES 54, CALIF.

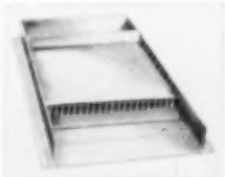
BREVITY—Identify by IEN-8903 if you write the maker

## THE MATEER ELECTRIC FILLER HANDLES THEM ALL!

BREVITY—Identify by IEN-8904 if you write the maker

## SEPARATING .. Permanent magnet unit removes ferrous particles from liquids

Source: ERIEZ MFG. CO.
1303 E. 12th St., Erie, Pa.



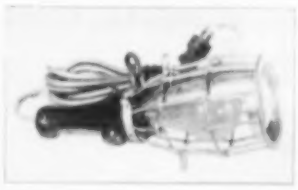
**Ferrous Cleaner** designates new permanent magnetic separator to remove ferrous particles from liquids or from flow of non-magnetic powders, in the latter case in connection with a vibrator to maintain feed action. The assembly employs a stainless steel trough carrying a series of permanent magnet bars with a grid to guide the flow.

**Normal installation** is at a slant to promote flow, with feed into a small hopper with an adjustable gate at one end. Ferrous particles that are collected can be cleaned off at intervals. Two sizes measure 24 in. in overall width, 18½ and 23½ in. in overall length, 4 and 4½ in. in height. Weights of these two assemblies are 90 and 10 pounds.

BREVITY—Identify by IEN-8905 if you write the maker

## LIGHTING .. Extension lamp holder, with guard and reflector, cord and plug

Source: McGILL MFG. CO.
100 N. Lafayette St., Valparaiso, Ind.



**Series 5000 LH** is a new lamp holder with a lamp socket and an auxiliary line receptacle molded into the impact resistant plastic handle and with a wire guard clamped in place. There are four projections of formed wire on the guard so the holder cannot roll.

**A reflector** inside the guard directs the light into a bright beam through a concentrating lens in the rim. The extension cord is supplied, when specified, in 25 or 50 ft. lengths.

BREVITY—Identify by IEN-8906 if you write the maker

## VIBRATING .. Pneumatic unit for bins, flasks, forms, hoppers

Source: SPO INC.
6450-54 Grand Division Ave., Cleveland 5, Ohio

**Series 76** is a new assembly of pneumatic vibrators in eight piston sizes between ⅜ and 2⅞ inches. Air consumption is 4½ to 8 cu. ft. per minute. Operating speed is 2,200 to 6,000 impacts per min. depending on the piston size. Operation is standard on 80 lb. air pressure. Permanent piston lubrication is designed into the unit by supporting a special lubricating cylinder liner.

*All Makes of These and All Other Products Are Listed in THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 36*

BREVITY—Identify by IEN-8907 if you write the maker

## MERRILL LIFTING CLAMPS

THE HEAVIER THE LOAD THE TIGHTER THE GRIP!

Safer and Speedier Lifting at less Cost... have made MERRILL-Velz LIFTING CLAMPS the choice of large Steel Mills everywhere.

SAFER
- Safety factor of 5 to 1.
- Factory tested at double rated capacity.

GREATER SPEED AT LESS COST
- Entirely Drop Forged and Heat Treated.
- Working parts entirely enclosed.
- Pins do not rotate in frame eliminating wear.

Available in Stainless Steel.

Sold by Better Distributors Everywhere.

MERRILL BROTHERS
56-14 ARNOLD AVE.
MASPETH, N. Y.

Producers of DROP FORGED SHACKLES, CLEVIS NUTS, TURN BUCKLES & EYE BOLTS
Write for new CATALOG 10

BREVITY—Identify by IEN-8908 if you write the maker

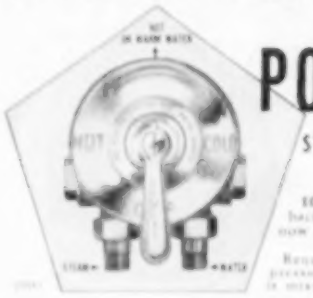
*For a Small, Localized Supply of Warm or*

## HOT WATER

*Use*

## POWERS

### STEAM and WATER MIXERS




**ECONOMICAL**—Quickly pay back their cost. Thousands now in use. Easy to install.

Requires steam and water pressures about 10 lbs. Steam is mixed directly with water.

**MANY USES**—Industrial processes, 180° F. sterilizing rinse water for dishwashers, washing oil drums, trucks, etc.

**TEMPERATURE RANGE**—Any temperature desired between that of incoming water and 200° F.

**HAS PRESSURE EQUALIZING VALVE**—which prevents delivery temperature changes caused by fluctuating pressures of steam or water.

**SMALL SIZE**—½" pipe size can be held in the palm of the hand, has 5" dial, ¾" size has 7" dome dial.

**CAPACITIES**—based on steam and water at 45 lbs. pressure each, water at 60° F., and delivery temperature of 160° F.—½" size—3 gals. per min.; ¾" size—8 gpm. Mixing steam with 140° F. water increases delivery about 75%. Often used as a small booster heater. *WRITE for Bulletin 358-S.*

**THE POWERS REGULATOR COMPANY**
2737 Greenview Avenue, Chicago 14, Illinois
Established 1891 • Offices Over 50 Cities • See Your Phone Book

BREVITY—Identify by IEN-8909 if you write the maker

## Kester Solder

Kester engineers, with over 100,000 different types and sizes of solder available, will specify the right flux-core solder for the job.

## Easier to Use

Using the most suitable solder for each operation will enable solderers to work at top speed without sacrificing quality. No rejects.

## Top Quality

Only newly mined grade A tin and virgin lead used. Fluxes – chemically correct.

KESTER SOLDER COMPANY
4201 Wrightwood Ave., Chicago 39
Newark 5, J. • Brantford, Canada

KESTER SOLDER

SEND FOR FREE MANUAL, "SOLDER and Soldering Technique"

BREVITY—Identify by IEN-8910 if you write the maker

● There's an ARO Air Screw Driver and Nut Setter in the size and speed for a broad range of tough assembly jobs! Specially designed for high production ... improved workmanship ... lower unit costs ... less work spoilage ... fewer broken bits ... longer tool life. Model 7037 (above) for No. 2-8 screws or 5/16" nuts ... 2400 R.P.M. ... lever throttle ... adjustable clutch. Write for bulletin. See your nearest industrial distributor. The Aro Equipment Corporation, Bryan, Ohio. Aro of Canada, Ltd., Toronto.

**ARO**
**AIR TOOLS**
Also ... CONVEYING EQUIPMENT ... HYDRAULIC EQUIPMENT ... AIR CRAFT PRODUCTS ... SPRAY FITTINGS

BREEFIT—Identify by IEN - 8911 if you write the maker

NO HELPERS--

**SABIN**
*One-Man*
**BARREL TRUCK**

Picking up barrel and drum loads, weighing as much as 800 pounds, is now an easy job for One Man with a Sabin Type "L3" Barrel Truck. Operation is very simple. You run truck up to container, hook on at top, then pull back on handle to pick up load.

THIRD WHEEL FEATURE insures better balance and added safety in moving loads.

WRITE FOR BULLETIN NO. 48-A

Other Sabin Trucks: KEG, BOX, CARBOY, WIRE COIL, TOTE PAN, etc. Write for Bulletin No. 48

THE SABIN MACHINE CO.
6540 Carnegie Avenue
CLEVELAND 3, OHIO

BREEFIT—Identify by IEN - 8912 if you write the maker

**WEIGHS A LITTLE but CARRIES A LOT**

Speedways Gravity Conveyors are light in weight, but move a mighty stream of goods. So light in weight that even a 10' section is easily portable, it can sustain weights of 60 to 70 lbs. per foot.

Where you are moving products with flat bottoms use Speedways Wheel Conveyors, otherwise use Speed TUBE Roller Conveyors—but in any case, use Speedways for low cost, labor saving material handling.

Available from stocks in principal cities, standard 5' and 10' lengths, 45° and 90° curves and standard widths of 19", 15", and 18", you can get the Speedways Conveyors you need—wherever you are.

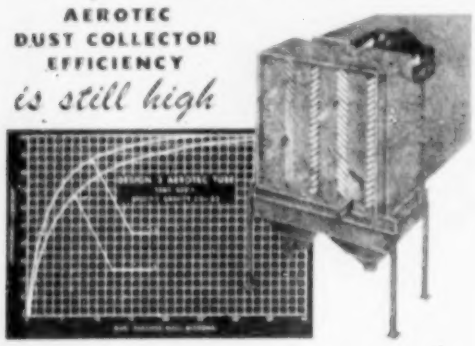
Write for literature on Speedways Conveyors complete line of light duty gravity conveyors and endless belt boosters. We will also tell you the Speedways representative nearest to you.

KEEP 'EM ROLLING WITH SPEEDWAYS CONVEYORS, INC.
1244 Niagara St.
Buffalo 13, N. Y.

*Represented and carried in stock by experienced material handling equipment engineers in principal cities. Also manufactured in Canada.*

BREEFIT—Identify by IEN - 8913 if you write the maker

**ON *Full* OR *Partial* LOADS**
**AEROTEC DUST COLLECTOR EFFICIENCY**
***is still high***



THE THERMIX CORPORATION
GREENWICH, CONN.

**THE AEROTEC CORPORATION**
GREENWICH, CONNECTICUT

BREEFIT—Identify by IEN - 8914 if you write the maker

**WELDING . . Multiple spot machine mounts ten heads, five transformers**

Source: SCIARY BROS. INC.
4917 W. 67th St., Chicago 38, Ill.

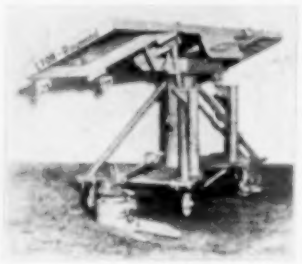
Type MG-5 designates new special assembly of ten of the company's electronically-controlled self-centering welding heads and five series welding transformers rating 35 kva. on 50 per cent duty cycle. Control is centered in a separate cabinet where the operator starts a cycle by depressing a pushbutton. The cycle includes squeeze, weld, hold and off intervals.

The heads can be positioned to meet requirements in various work pieces. Approximately 720 completed work pieces can be produced in an hour. The machine is typical of special equipment the company is prepared to design and build.

BREEFIT—Identify by IEN - 8915 if you write the maker

**HANDLING . . Portable table with inclining elevating top, to 3 ton**

Source: LYON-RAYMOND CORP.
3573 Madison St., Greene, N. Y.



New assembly of the company's portable elevating table includes a top that also inclines to line up with the bed of an inclined press to which sheet stock is to be fed. The sheets are loaded with the top in horizontal position. The manually-operated hydraulic pump is then used to obtain the desired elevation and also to tilt the top to its inclined position. The tilting assembly is available in 1, 2 and 4-ton table capacities.

BREEFIT—Identify by IEN - 8916 if you write the maker

**ENGINEERING . . Textbook on concrete design includes illustrative examples and sample problems**

Ronald Press Co.
15 E. 26th St., New York 10, N. Y.

Problems method of instruction is followed by new 344 page book, "Basic Reinforced Concrete Design". Author is Professor G. E. Large of Ohio State University. List price is $5.50. Typical chapter headings are beams, columns, buildings, floors, footings.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59*

BREEFIT—Identify by IEN - 8917 if you write the maker

**BETTER POWER TRANSMISSION write for bulletins**

BULLETIN GMA
Foote Bros. Louis Allis Gearmotors are available in single, double, and triple reductions in a wide range of sizes and ratios. Duh-Rated Gears assure long wear life.

BULLETIN LPA
Foote Bros. Line-O-Power Drives are compact, sturdy units available in double and triple reductions. Have long wearing Duh-Rated Gears.

BULLETIN HGA
Foote Bros. Hypyoids Drives offer rugged dependability, and trouble-free operation. Horizontal and vertical types available in a wide range of sizes and ratios.

BULLETIN HPA
Foote Bros. Hypower Drives. Increased mechanical capacity is made possible by refined techniques in generating gears, and by increased thermal capacity. Horizontal and vertical types in a wide range of sizes.

BULLETIN MPA
Foote Bros. Maxi-Power Drives provide more power in less space. Available in single, double, and triple reductions in a wide range of sizes and ratios.

FOOTE BROS.
GEAR AND MACHINE CORPORATION
Dept. IEN, 4545 South Western Blvd.
Chicago 9, Illinois

FOOTE BROS.

BREEFIT—Identify by IEN - 8918 if you write the maker

*Engelhard meets every*

**THERMOCOUPLE NEED!**

**NOBLE METAL THERMOELEMENTS AND THIMBLES**

platinum vs. platinum-rhodium—repaired at substantial savings, with credit for reclaimed metal.

**BASE METAL THERMOELEMENTS**

chromel vs. alumel iron vs. constantan copper vs. constantan.

**STANDARD INSULATORS**

All types and sizes.

**PRIMARY AND SECONDARY PROTECTION TUBES**

**TERMINAL HEADS AND LEAD WIRE, ETC.**

At Engelhard, you will find a complete line of thermocouples and accessories to meet all requirements. The individual parts of Engelhard thermocouples are selected and assembled for your specific conditions of atmosphere and temperature. You can rely on Engelhard's more than 40 years of research and instrument-building experience to solve your temperature measurement problems. Write for complete information today.

**CHARLES ENGELHARD, INC.**
850 PASSAIC AVE., EAST NEWARK, N. J.

BREEFIT—Identify by IEN - 8919 if you write the maker

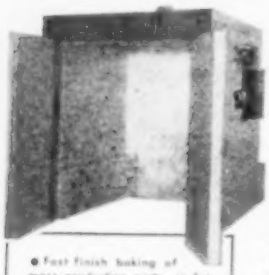
LONG LIFE . . . DEPENDABLE SERVICE BUILT-IN

**CLYDE IRON WORKS Inc.**
DULUTH, MINNESOTA

BREEFIT—Identify by IEN - 8920 if you write the maker

*"Any Way You Figure"*

**Up to 50% Faster Baking**



***Despatch* OVENS**

There's a Despatch Finish Baking Oven to meet the needs of both large factories and small shops. Wide range of uses includes aging, preheating, drying and curing. Ideal for baking insulating varnish on armatures . . . film surfaces of lacquer and enamel . . . wrinkle finishes on metal parts . . . hundreds of other baking operations. 12 to 240 cu. ft. capacities.

- Fast finish baking of mass production parts, or for repair service . . .
- Vertical and horizontal forced air circulation prevents over or under baking . . .
- Gas or electric operated . . . wide range of sizes . . . factory tested . . . shipped assembled . . . ready for operation . . .

**Write for Bulletins on RS Ovens and Trucks**

Manufacturers of ovens for paint finishing . . . dehydrating . . . curing . . . all industrial and laboratory applications.

DESPATCH OVEN CO.
337 DESPATCH BUILDING
MINNEAPOLIS 14, MINNESOTA

BREVITY—Identify by IEN - 8921 if you write the maker

# REALOCK

## IS TAMPER-PROOF

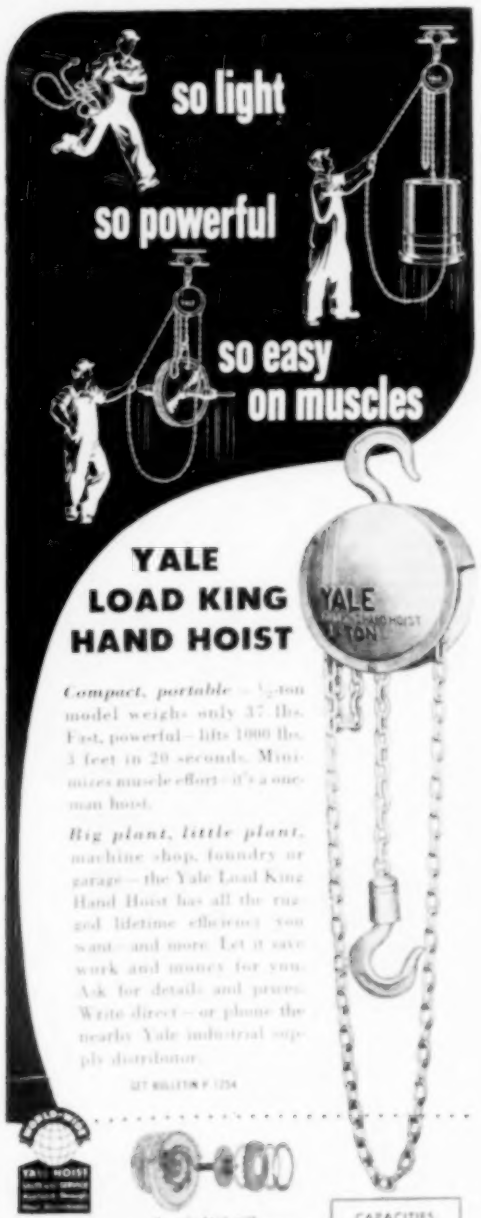
Realock Fence gives your plant property tamper-proof protection against trespassing, arson, theft and other costly hazards. That's because essential fittings are designed to permit the removal of bolts from the inside only.

Sturdily constructed of steel wire, heavily galvanized, Realock Fence is weather-resistant, extra durable and practically maintenance free. The Wickwire Division will not furnish integral arms as shown, but will substitute a malleable base with pressed steel arms. For complete details refer to Sweet's Catalog. For free estimate consult your classified telephone directory — or write direct.

**REALOCK FENCE**

WICKWIRE SPENCER STEEL DIVISION 361 Delaware Ave., Buffalo 2, N. Y.
THE COLORADO FUEL & IRON CORP. Continental Oil Bldg., Denver 2, Col.
THE CALIFORNIA WIRE CLOTH CORP. 5200 - 19th Avenue, Oakland 8, California
BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

BREVITY—Identify by IEN - 8922 if you write the maker




*Compact, portable* — ½-ton model weighs only 37 lbs. Fast, powerful — lifts 1000 lbs. 3 feet in 20 seconds. Minimizes muscle effort — it's a one-man hoist.

*Big plant, little plant,* machine shop, foundry or garage — the Yale Load King Hand Hoist has all the rugged lifetime efficiency you want — and more. Let it save work and money for you. Ask for details and prices. Write direct — or phone the nearby Yale industrial supply distributor.

SEE BULLETIN P-1254

YALE HOIST

SYNCHRO-MATIC LOAD BRAKE

CAPACITIES ½, 1, 1½ and 2 tons

THE YALE & TOWNE MANUFACTURING COMPANY
Roosevelt Boulevard Philadelphia 15, Pa.

YALE — SCALES — Industrial • HOISTS — Hand and Electric • TRUCKS — Hand Lift, Electric, Gasoline, Diesel

BREVITY—Identify by IEN - 8924 if you write the maker

## GRINDING . . Cylindrical machine with gap to clear large work diameters

Source: CINCINNATI MILLING & GRINDING MACHINES INC.
Marburg & Kline Sts., Cincinnati 9, Ohio

**New 16/40 in.** gap-type cylindrical grinding machine takes work such as an engine piston and rod to grind the rod. The machine swings 16 in. over its bed ways and provides a gap at the headstock end to swing to clear a 40-in. piston. Four lengths measure 96 to 168 inches. Assembly weight ranges from 32,800 to 42,600 pounds.

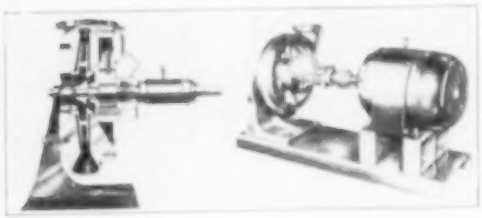
**A 20-hp. motor** is belt connected to the grinding wheel spindle which is mounted in the company's Cymatic bearings, a segmental construction riding the spindle on wedge-shaped films. Oil is circulated under pressure and any pressure failure results in immediate spindle shutdown.

**The work table** with its 2-hp. motor-driven headstock is traversed by a 1½-hp. motor and rack and pinion at rates between 3 and 150 ipm. Variable speed is obtained by an electronically-controlled dc motor operating on ac input. Table carry at each end can be adjusted from 0 to 18 seconds. Spindle speed at the dead-center headstock is variable by rheostat control between 20 and 72 rpm.

BREVITY—Identify by IEN - 8925 if you write the maker

## PUMP . . Motor driven centrifugal, self-priming for liquid transfer uses

Source: GILBERT & BARKER MFG. CO.
100 Cold Spring Ave., West Springfield, Mass.



**Roto-Prime** trade-names new line of centrifugal pumps that include small vane-type rotary variable-delivery pumps on the shaft back of the main impeller. This positive pump handles air and vapor prior to establishing suction to prime the main centrifugal impeller. When prime is established the fluid pressure moves the vane-pump housing ring to neutral position and the pump starts with the centrifugal pump shaft.

**Capacities** range from 20 to 400 gpm. at 1,750 rpm. Construction includes an enclosed centrifugal impeller, a built-in check valve in the flanged outlet, shaft mounting on sealed ball bearings, a mechanical shaft seal, provision to set the pump housing in a number of delivery positions on its supporting bracket. Motor rating is 3 to 15 hp. Overall base dimensions are 35 to 56 in. in length, 15 in. in width. Height in vertical delivery is 20½ and 25 inches.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50*

BREVITY—Identify by IEN - 8926 if you write the maker

OZITE all-hair felt has an outstanding record for solving problems of cushioning, padding, thermal and sound insulation. Our research and engineering staff are ready to give you competent assistance should you have any problems in these or similar applications.

OZITE felt in standard weights and thicknesses meets most production requirements. Special weights and thicknesses, as well as paper, cloth, or foil backings and stitched reinforcements may be had in production quantities.

Write today for OZITE bulletin No. 1500. If you desire samples for test, simply send a brief description of your application.

**AMERICAN HAIR & FELT CO.**
Dept. X509, Merchandise Mart Chicago 54, Illinois

BREVITY—Identify by IEN - 8927 if you write the maker

# HANNIFIN AIR CONTROL *Valves*

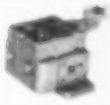
NEWEST TYPES! EXCLUSIVE DESIGNS for EVERY PURPOSE!

THE Hannifin line of Air Control Valves is complete — sizes and types for every purpose! Hannifin leads with newest, exclusive designs for fast, effortless control of air cylinders, presses, and other air operated equipment. Ask for recommendations.

"PACKLESS" HAND OPERATED

Simple, smooth acting, positive 3-way or 4-way valves. "Packless" rotary disc type. Self lapping. Sizes from ¼" to 1¼". *Ask for Bulletin 5-W*

"EFFORTLESS" HAND OPERATED



Fast, new, finger-tip, pilot operated sliding disc valve. Effortless, air pressure does the work! For single or double acting cylinders. *Ask for Bulletin 5-H*

"PACKLESS" FOOT OPERATED

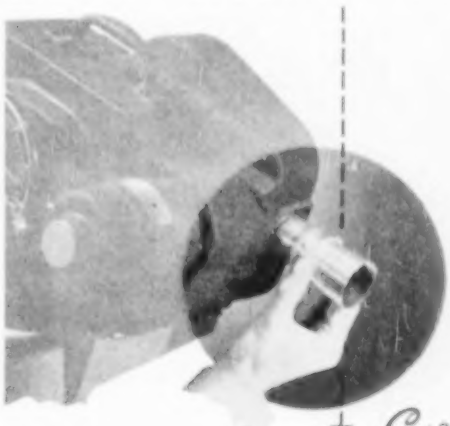
Treadle type, leaves operator's hands free for other work. Tight sealing, self lapping, rotating bronze disc. Sizes ¼" up to ¾". *Ask for Bulletin 5-W*

"EFFORTLESS" FOOT OPERATED

Fast, new, pilot operated, disc type valve. Light, effortless action. Rugged construction. With or without pedal guard. *Ask for Bulletin 5-H*

**HANNIFIN CORPORATION**
1107 South Kilbourn Avenue Chicago 24, Illinois

BREVITY—Identify by IEN - 8928 if you write the maker



# A FASTER *Finer Eye*

## to study action too fast for your own eyes

The new Kodak Cine Ektar Lens, 63mm f/2.0, now available on the Kodak High Speed Camera, requires less light to record superb pictures at rates of 1000 to 3000 per second. That's a factor of utmost importance in hard-to-light locations.

With nearly twice the light-gathering capacity previously available, the astounding over-all image quality of this new lens supplements the "slowing down" of time that results during projection at the standard 16 frames per second. Result: revelation for leisurely study of unsuspected vital details about products and processes that move too fast for your eye to follow.

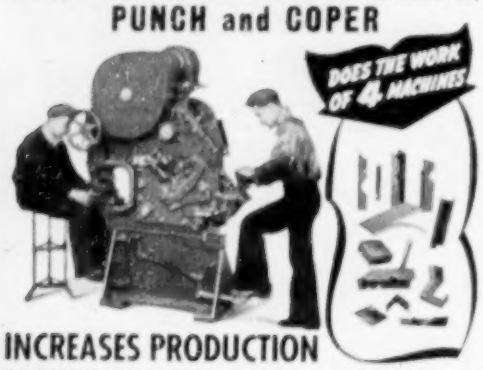
The booklet "Magnifying Time" tells the complete story of seeing the unseeable. Send for it today. Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

the Kodak *High Speed Camera*

Kodak

BREEZE—Identify by IEN-8930 if you write the maker

## KLING'S COMBINATION SHEAR, PUNCH and COPER




**INCREASES PRODUCTION**

**SAVES Time, Work, Space, Steps and Equipment**

A multi-purpose machine that requires little skill to produce precision work economically. Made in three popular sizes. Ideal for production or maintenance work. It Punches, Shears, Copes and Slits Angles, Tees, Bars, Plates and structural shapes.

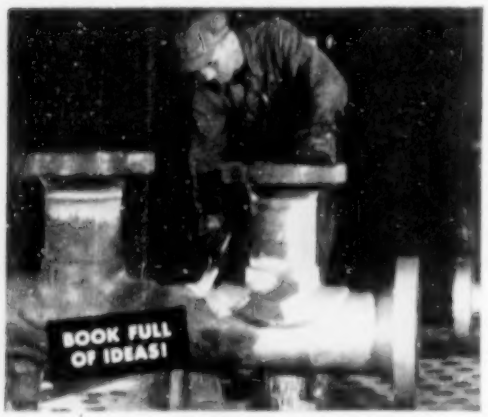
*Write today for Bulletin 2240*

Manufacturers of Friction Saws, Rotary Shears, Punches, Double Angle Shears, Plate Bending Rolls, Angle Rolls, and other metal working machinery.

**Kling Bros. Engineering Works**
1326-1E N. Kostner Avenue Chicago 51, Illinois

**KLING'S COMBINATION SHEAR·PUNCH & COPER**

BREEZE—Identify by IEN-8931 if you write the maker




## HOW TO PROTECT METAL FROM MOISTURE AND STEAM*

You'll find the answer in this NEW FREE BOOK! And the solution to hundreds of industrial painting problems, too. Alcoa has prepared this book especially for industrial paint buyers. We do not make paint. But we want you to be sure to receive all the benefits that come when you buy and apply the right aluminum paint.

In this book you'll find information about the proper application of aluminum paint on heated surfaces. You'll learn when and where to use Aluminum Metal and Masonry Paint and about special applications to meet unusual conditions. You'll also discover there is a right paint for covering weather-exposed wood.

This book will help you get better value, better results from the aluminum paint you buy. Just attach this coupon to your letterhead and this valuable book will be sent to you.

ALUMINUM COMPANY OF AMERICA
Paint Service Bureau, 1770-M Gulf Bldg., Pittsburgh 19, Pennsylvania
Please rush me free copies of "Painting With Aluminum"
Name (please print)
Address
City State
We plan to paint the following

**Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.**
**"The right kind of paint for heated metal surfaces" is ALUMINUM ENAMEL.**
ALCOA ALBRON

BREEZE—Identify by IEN-8933 if you write the maker

## TESTING . . Oscilloscope for laboratory and inspection uses

Source: SYLVANIA ELECTRIC PRODUCTS INC.
1740 Broadway, 16th Floor, New York 19, N. Y.

Type 100 is a new high-gain wide-band oscilloscope with a Type 22P1 green-screen cathode-ray tube. The unit provides vertical sensitivity to 10 millivolts per in. and vertical response useful to 4 megacycles. Usual sweeps range from 10 cycles to 50 kilocycles. Input impedance is 20 megohms. Used for negligible circuit loading in connection with a probe, direct or special probe as supplied load. There is provision for direct connection to deflector plates and panel connection for intensity or Z axis modulation.

**Construction** includes a four position frequency-compensated attenuator, a vernier gain control, internal 60-cycle sine-wave sweep, wide-range phasing control, control to synchronize to positive or negative signal. A 60-cycle source is built in.

BREEZE—Identify by IEN-8934 if you write the maker

## WELDING . . Pneumatic attachment to convert foot operated spot welder

Source: R. W. HOFFMAN CO.
32-36 S. Clinton St., Chicago 6, Ill.

**Weld-Air Matic** is a new attachment to change foot-operated rocker-arm spot welders over to power operation with control at a foot-operated electric switch. The new unit clamps to the upper horn of the conventional machine, connects to a shop source for compressed air at 80 lb. or more. It passes the air through a lubricator and reduction valve to provide 45 to 50 lb. in the operating cylinder. Air consumption is about 4 cu. ft. per minute on steady operation. Maximum stroke is 1½; 2 or 2½ inches. Control is by any standard welding timer.

BREEZE—Identify by IEN-8935 if you write the maker

## FLOORS . . Recommendation chart on materials to finish, clean, polish floors

American Floor Surfacing Machine Co.
556-W S. Clay St., Chicago 6, Ill.

**Fifteen materials** are listed in new 20½ by 11-inch chart that forms part of new Floor Finish Specifications file. They are grouped into penetrating seal, surface, cleaning and maintenance, special classes. Units each is given "do" and "don't" selections against nine floor types such as wood, tile, concrete. Coverage figures are included along with drying times and condensed descriptions. Details are given in accompanying specification sheets.

*All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREEZE—Identify by IEN-8936 if you write the maker

BREEZE—Identify by IEN-8937 if you write the maker

## NOW from NEARBY STOCK NEW BOSTON gear PILLOW BLOCKS

FULLY SELF ALIGNING — PRECISION BALL BEARING

## with SAFETY-VENT-SEAL

ONLY BOSTON GEAR Self-Aligning Pillow Blocks and Flanged Cartridges are equipped with the exclusive Safety-Vent-Seal which automatically controls the correct amount of lubricant but cannot "blow". *Precision ground ball bearings* — strong, rigid precision machined housing of Boston gear iron.

EIGHTY STOCKS . . . ONE NEAR YOU

For stock sizes, load ratings, prices, consult the new Boston Gear Catalog No. 55, mailed free on request.

**BOSTON gear stocks are New**

**BOSTON GEAR WORKS**
63 HAYWARD ST., QUINCY 71, MASS.

BREEZE—Identify by IEN-8938 if you write the maker

## . . . for micrometer-precision speed control

**HANNA Flo-Set SPEED CONTROL VALVES**

If you want *precision* speed control, measured by a consistent, constant gauge, Hanna now offers a new line of Flo-Set Valves ¼", ⅜" and ½" for exacting speed control of low pressure cylinders. Micrometer graduations are in hundredths of a revolution, with each hundredth representing 1/100 of the pipe area to permit precision regulation of flow. For light piping and tubing, there's a ¼" Flo-Set Jr. Valve, which operates the same as the larger units but does not include the micrometer markings.

Hanna Flo-Set Valves are suitable for air, oil or water control, with maximum pressure to 250 p.s.i. and maximum temperature to 250° F. They may be mounted in any position.

Details and specifications are included in a new bulletin—be sure to send for it.

Valves shown are approximately ½ actual size

**Write for New Bulletin and Catalog**

For full information on Hanna Flo-Set Valves ask for Bulletin 232. You'll also want a copy of new Hanna Valve Catalog No. 234 showing the complete line of Hanna Valves.

**Hanna Engineering Works**
HYDRAULIC AND PNEUMATIC EQUIPMENT . . CYLINDERS . . VALVES . . DIVERTERS
1765 Elston Avenue, Chicago 22, Illinois

▼ BREVITY—Identify by IEN - 8940 if you write the maker ▼

HOW TO SELECT THE RIGHT MOTOR
Here's a digest of information you should have in selecting the right motor for any job. New torque and current standards of the National Electrical Manufacturers Association for A-c. motors are tabulated and explained. And these are further supplemented by more detailed performance data on RELIANCE PRECISION BUILT Motors. Write today for this important new Motor Data Bulletin, B-2101.

Reliance has a way of building motors that must be seen to be fully appreciated. [illegible]

RELIANCE ELECTRIC & ENGINEERING CO.
1072 IVANHOE ROAD CLEVELAND 10, OHIO
Sales Representatives in Principal Cities



▼ BREVITY—Identify by IEN - 8941 if you write the maker ▼

## "Little strokes fell great oaks."

—Ben Franklin's Almanac, 1757

On thy chart of business for the month, beware lest ye line of rising costs take all ye joy out of ye record production.

—Acme Steel Notebook, 1950*

Efficiency and thrift are good solid American virtues... just as applicable to business as they ever were.

For more than seventy years, Acme Steel methods and Acme Steel products have been helping a lot of companies get improved efficiency and greater thrift. More than 50,000 Acme customers in every industry now enjoy these benefits, particularly in departments and operations concerned with packaging, shipping, materials handling.

For example, every day thousands of shipments arrive at their destination securely protected with Acme Steelstrap or Unit-Load Band. Huge logs and tiny toothpicks, gigantic motors and delicate microscopes . . . leather, machinery, food, glass, textiles, chemicals, paper, petroleum . . . Acme methods work for them all.

Illustrated here is another Acme Steel product and more are listed below. If you would like to know more about them and how they may be able to help you, write on your business letterhead and ask for free booklets on the specific products in which you are interested.

ACME STEEL COMPANY
Dept. IEN-90, 2828 Archer Avenue, Chicago 8
There are 46 Acme Steel service offices in the principal cities of the U.S. and Canada.

*[illegible]

The heavy duty Acme Morrison Metal Stitcher [illegible]

ACME STEEL

[illegible]

ACME STEELSTRAP flat steel strapping and ACME UNIT-LOAD carload bracing BAND, SEALS and TOOLS • ACME SILVERSTITCHER machines • ACME SILVERSTITCH stitching wire • ACME-MORRISON METAL STITCHERS and BOOK STITCHERS • ACME-CHAMPION BAG STITCHERS • ACME HOT AND COLD ROLLED STRIP STEEL • ACME GALVA-BOND steel slat stock for Venetian blinds • ACME STEEL SPECIALTIES, including hoops, corrugated fasteners, nail-on strapping and other container reinforcements • ACME STEEL ACCESSORIES—snips, cutters, punches, tool mounts, reel stands, coil holders, coil trays.


# NEWS NOTES

Reviews and announcements to keep you informed on sources of special assistance for your daily problems. Subjects include unusually helpful manufacturers' literature, textbooks of industrial interest, slide films and motion pictures on training or product description, unusual applications of existing equipment, formation of new service organizations, new processes, expositions, conventions. Copies of printed material and films are available. Any limiting conditions are named.

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▼ BREVITY—Identify by IEN - 8943 if you write the maker ▼

**ALUMINUM . . . ABC information in booklet on aluminum and its uses**

Reynolds Metals Co.
2500 S. 3rd St., Louisville 1, Ky.

**Non-technical presentation** is employed in new 16-page booklet, "The A-B-C's of Aluminum" to describe the metal and its uses. Production, fabrication, features, application are principal topics. Pictures illustrate the text. A detailed cross-index occupies 16 pages. Please request the new booklet on your company letterhead and address the company direct.

▼ BREVITY—Identify by IEN - 8944 if you write the maker ▼

**CALCULATING . . . Booklet on electronic calculator describes operation of vacuum tube and its application**

International Business Machines Corp.
590 Madison Ave., 18th Fl., New York 22, N. Y.

**"Electrons at Work"** titles new 16-page booklet on the company's electronic calculator equipment. A preliminary section uses line drawings to show basic essentials of the vacuum tube and how its characteristics are employed in calculating, amplifying, timing. The booklet reproduces typical display panels to show how electronics are used in calculating machines.

▼ BREVITY—Identify by IEN - 8945 if you write the maker ▼

**COMMUNICATING . . . Rates and regulations in 8-page bulletin on international communications**

[illegible]
[illegible], New York 7, N. Y.

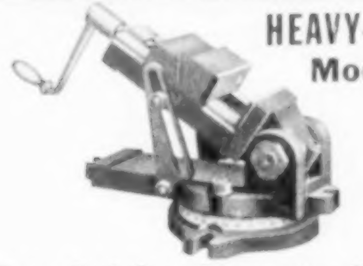
**Telephone, radio,** cable rates from New York to principal cities in some 70 countries in the initial table of new 8-page bulletin, "International Communications", that lists at 50 cents. The second table lists postal rates to principal world markets. This table is classified by location, type of postal material, and includes notes on transit charges, consular invoices, other requirements.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30*


▼ BREVITY—Identify by IEN - 8946 if you write the maker ▼

PALMGREN ANGLE VISES

HEAVY-DUTY Model



**For Quick — Accurate Set-ups**

PALMGREN Heavy Duty Angle Vises are built sturdy and rugged for tough, heavy jobs. They are accurately graduated in degrees, can be quickly adjusted to any angle, stay locked under severe service and save valuable hours otherwise wasted in tedious make-ready, wedging or making temporary jigs and fixtures.

Jaws are hardened and ground. Special outstanding features are the size and opening of jaws: 4" Jaws open full 4", the 6" Jaws open full 6", etc., with corresponding depth of Jaws. Vise can be used as ordinary vise when lowered to horizontal position. Swivel bases furnished if desired. Sizes 4", 6" and 8" Jaws and openings. Prompt deliveries.

ORDER TODAY Be Sure of IMMEDIATE DELIVERIES

Write for bulletin on complete line of PALMGREN Vises

CHICAGO TOOL & ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS for over 20 years
8406 SOUTH CHICAGO AVENUE • • • CHICAGO

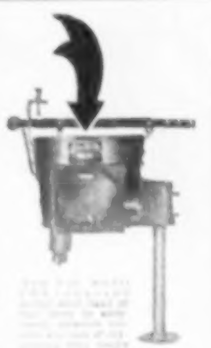
PRECISION WORK AT ANY ANGLE



▼ BREVITY—Identify by IEN - 8947 if you write the maker ▼

Sta-Warm

the name that means FASTER, BETTER, SAFER Compound Melting



The most efficient compound melting equipment you can specify carries the name "Sta-Warm" and for 30 years has meant faster, better, safer compound heating, conveying, dispensing.

Every Sta-Warm heater is designed to produce low-cost properly melted ready-to-use soft metals and compounds. No other method . . . from strip or immersion heaters to steam or oil coils or gas . . . so surely protects compounds from abuse and loss, so safely and automatically controls temperature, so dependably produces the right amount of compound when and where it is required to keep production schedules moving.

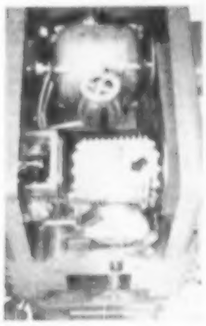
Why don't you look into Sta-Warm compound melters now for your production line? There's a size and type to meet your requirements. Outline your problem or write for bulletins.

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST. • RAVENNA, OHIO



▼ BREVITY—Identify by IEN - 8948 if you write the maker ▼

Compact Standard Reducers Cut Cost of Machine Drives



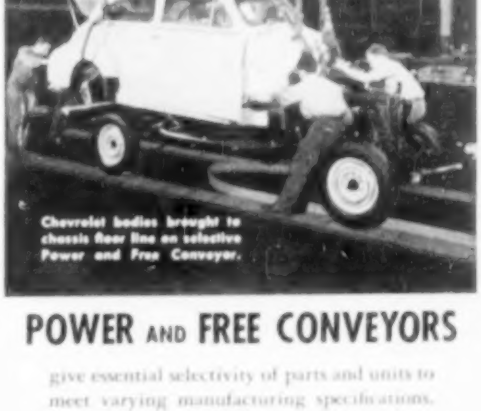
Made possible by the high load carrying capacity and extreme compactness of double enveloping Cone-Drive gearing, the use of standard stock Cone-Drive reducers instead of built-in gearing does away with special gear designing and bearing calculations, plus the necessary machining of castings, assembling of gears, shafts, bearings, etc.

Another way in which Cone-Drive Gears give you a lower machine drive cost per horsepower.

CONE-DRIVE GEARS



▼ BREVITY—Identify by IEN - 8949 if you write the maker ▼




Chevrolet bodies brought to chassis floor line on selective Power and Free Conveyor.

POWER AND FREE CONVEYORS

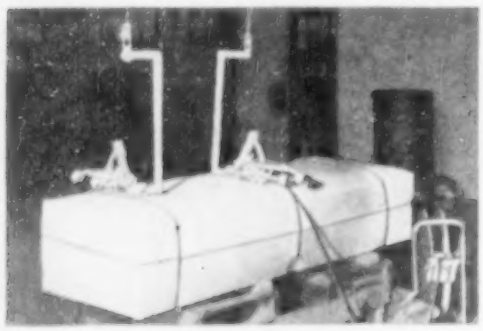
give essential selectivity of parts and units to meet varying manufacturing specifications. Write for complete Power and Free data.

OFFICES IN PRINCIPAL CITIES

JERVIS B. WEBB COMPANY
8915 ALPINE AVE.
DETROIT 4, MICH.

MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS

▼ BREVITY—Identify by IEN - 8950 if you write the maker ▼



STANLEY STEEL STRAPPING
SOLVES TOUGH PACKAGING PROBLEM

The Herrick Mfg. Co.'s stripping post, New Herrick Gasket, Indiana plant had a more time and labor gets a problem packing their porch stronger, better, safer pack- and lawn furniture. Stanley age. Find out how Stanley has recommended the speedy Arc cut your stripping costs. Strapping Tool, with this The Stanley Works, Steel overhead oscillator to make Stripping Div., 343 Lake St., the tool readily available at New Britain, Conn.

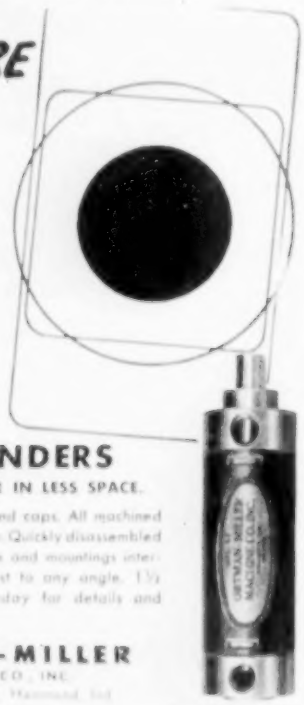
STEEL STRAPPING AND CAR BANDING SYSTEMS

STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

▼ BREVITY—Identify by IEN - 8951 if you write the maker ▼

COMPARE
MOUNTING DIMENSIONS
BORE FOR BORE



SEE WHY
O-M CYLINDERS
PACK MORE POWER IN LESS SPACE.

No tie rods, no bulky end caps. All machined steel and bearing bronze. Quickly disassembled and repacked. All parts and mountings interchangeable. Ports adjust to any angle. 1½ to 8" bores. Write today for details and specifications.

ORTMAN-MILLER
MACHINE CO., INC.
1708 Dow Street, Hammond, Ind.

▼ BREVITY—Identify by IEN - 8952 if you write the maker ▼

The ONLY FENCE
MADE OF
KONIK STEEL

KONIK is a patented open hearth steel containing copper, nickel and chromium for greater strength . . . for extra resistance to rust. Only Continental Chain Link is made of KONIK to give you the greatest protection at lowest cost per year of fence life. Contact our nearest representative or call us at Kokomo to learn more about this superior property protection.

WE'LL HELP YOU . . .
Our fence engineers will help you plan and erect the type of fence best suited to your property. Write for free book "Planned Protection," today.

Continental Steel Corporation, Kokomo, Indiana

CONTINENTAL STEEL CORPORATION

## NEWS NOTES—Continued

*"Booklet on how to sharpen drills"*

▼ BREVITY—Identify by IEN - 8953 if you write the maker ▼

CONNECTORS . . . Wall chart
of information on solderless terminals

Aircraft Marine Products Inc.
1700 N. 40th St., Harrisburg

**Six types** of the company's wire connectors are described by new 25 by 18-in. wall chart. Construction, construction, wire size, range, insulation, and factory application methods are noted. The chart also presents recommend information on crimping tools and machines.

▼ BREVITY—Identify by IEN - 8954 if you write the maker ▼

CONTROLS . . Circuit diagrams
show application of liquid level controls in bulletin

Charles F. Warnick Co.
1600-03 Hamilton Ave., Cleveland 3, Mich.

**Operating principle** is described by text and illustrated by diagram drawings at start of new 32-page Catalog FA on the company's electrode-type liquid level controls. The catalog contains with details on electrodes, signal and power relays, installation, ratings. A feature is a set of schematic circuit diagrams to show 15 applications.

▼ BREVITY—Identify by IEN - 8955 if you write the maker ▼

CUTTING . . Recommendation chart
lists carbide grades for fourteen applications

Wendt-Sonis Co.
Cutter & Tools Div., Hartford, Mich.

**Grade designations** by four carbide manufacturers are listed for 14 types of application in new 9 by 5½ in. Grade Recommendation Chart. They cover chip removal, wear and impact resisting uses. There is a summary of the company's tools.

▼ BREVITY—Identify by IEN - 8956 if you write the maker ▼

DRILLING . . Instruction booklet
on use and sharpening of drills and reamers

Chicago-Cleveland
4099 W. Ontario St., Chicago 10, Ill.

**Sixth Edition** is announced for the company's instruction booklet, "Care of Drills and Reamers". Its 24 pages describe how to sharpen drills, point angles for various types of work, speeds and feeds, oils and coolants, carbide drills, reamers. Please make your request on company letterhead.

▼ BREVITY—Identify by IEN - 8957 if you write the maker ▼

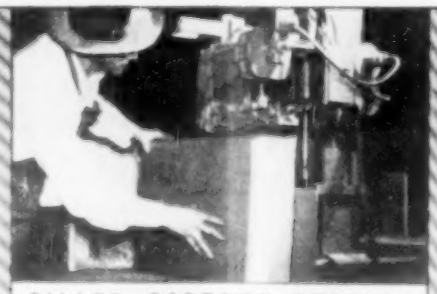
GRINDING . . . Sixteen experimental shops
to test application of coated abrasives to your products

Kuhn Manufacturing Corp.
P. O. Box 908 A, Troy, N. Y.

**"Proving Ground for Production"** is the new 8-page descriptive bulletin on the company's Methods Rooms located in or near 16 industrial centers. Typical equipment employed and examples of parts are shown. These parts range from those requiring a high finish to some on which flash and burr removal is primary. Addresses are listed.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56*

▼ BREVITY—Identify by IEN - 8958 if you write the maker ▼



FILLED CARTONS STAPLED FROM THE OUTSIDE, TOPS AND BOTTOMS SIMULTANEOUSLY

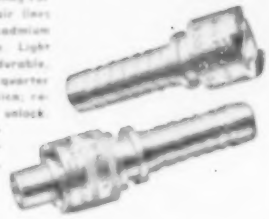
INTERNATIONAL STAPLE & MACHINE CO.
HAVERTOWN 5 PENNSYLVANIA

EST. 1938

▼ BREVITY—Identify by IEN - 8959 if you write the maker ▼

"DIX-LOCK"
Quick-Acting, Streamlined
AIR HOSE COUPLING

A modern, efficient coupling for all factory and field air lines up to ¾". Made of cadmium plated steel or bronze. Light weight, yet strong and durable. Snap-lock action . . . quarter turn against spring tension; reverse quarter turn to unlock. Hose ends; male and female I.P.T. ends. Completely interchangeable.



Stocked by Mfrs. and Jobbers of Mechanical Rubber Goods

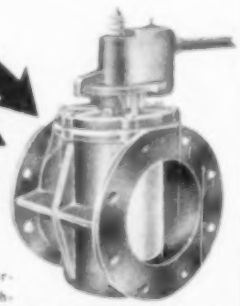
DIXON
VALVE & COUPLING CO.
Hancock St. and Columbia Ave. Philadelphia 22, Pa.
Brooklyn-Chicago • Birmingham • Los Angeles • Houston

▼ BREVITY—Identify by IEN - 8960 if you write the maker ▼

THE CURE
FOR VALVE HEADACHES

DeZURIK EASY-OPERATING PLUG VALVES offer you sure relief from chronic valve troubles.

NO LUBRICATION
NO DIRT TRAPS
NO LEAKAGE
NO BINDING



DeZurik's exclusive rubber-faced plug delivers a cushioned, conforming shut-off that's always drip-tight and air-tight. And DeZurik's famous "eccentric principle" gives you the smoothest, easiest operation you've ever known. Our free catalog tells the whole story.

DeZURIK SHOWER CO.
SARTELL, MINNESOTA

▼ BREVITY—Identify by IEN - 8961 if you write the maker ▼

Vapor-Clarkson
STEAM CLEANERS

Sixty gallons of reputed cleaning solution per hour at pressures up to 200 lbs.

Plenty of hot solution to operate two steam guns at the same time, with ample reserve power for all cleaning jobs. No idle time, lost in waiting. The Model 1942 Vapor Steam Cleaner generates 100 lbs. of steam pressure in one minute from a cold start. Scientifically constructed, Model 1942 is not low in initial cost, but does the work 3 to 4 times faster.

Sold and in New York • St. Paul • Chicago • Cleveland • St. Louis • Denver • Washington • Philadelphia • San Francisco • Portland, Oregon • Jacksonville, Florida • Richmond, Virginia • Houston, Texas • Seattle • Montreal

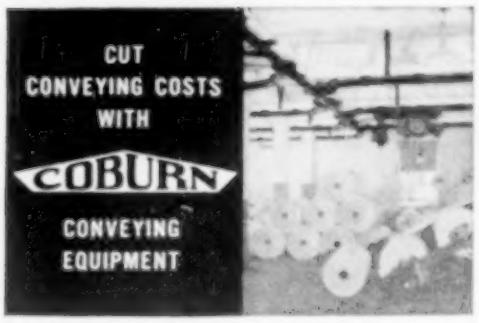
PORTABLE. Take it anywhere for cleaning and stripping paint, cleaning and coloring.
MAXIMUM FUEL ECONOMY. Does automatic burner control is available.
EFFICIENT OPERATION. Can be used continuously one after one for any operation.
FULLY AUTOMATIC. Can be used, shut by engine in your shop or plant by turning one switch and handle for steam pressure required.

Made by the manufacturers of the famous VAPOR CLARKSON STEAM GENERATORS and an authorized Vapor Steam coverage operation on this equipment.

Write for Bulletin 112

VAPOR HEATING CORPORATION
80 East Jackson Blvd., Chicago 4, Illinois

▼ FREE!!!—Identify by IEN - 8962 if you write the maker ▼




You can lower costs, speed production and reduce accident hazards with Coburn—the original enclosed overhead monorail. Sectional design permits easy installation, rearrangement or extension, as required. Coburn Enclosed Track does not obstruct floor space, requires very little headroom, simplifies spotting of work directly over machines. Can be used with hand chain or electric hoist. Carries loads up to 3000 lbs. manually or power operated.

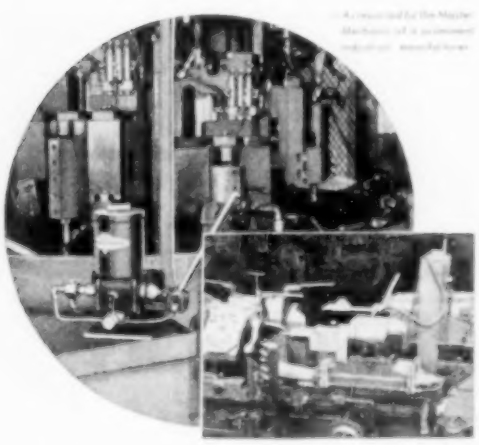
Write today for catalog on Enclosed Track, Bracket type Jib Cranes, Traveling Crane and Monorail installations. Engineering help available without obligation.

**COBURN PRODUCTS**

A PRODUCT OF NATIONAL STANDARD, DIVISION OF THE DEARBORN CO., A NEW CORPORATION
Sales Engineering: 56 Sterling Street, Clinton, Massachusetts
Executive Offices: 500 Fifth Avenue, New York 18, New York
Sales Offices: Atlanta • Boston • Buffalo • Chicago • Denver • Detroit • Philadelphia
Pacific Coast—The California Wire Cloth Corporation, Oakland 8, California

▼ FREE!!!—Identify by IEN - 8963 if you write the maker ▼

"Since Standardizing Lubrication Methods with *Lincoln* CENTRALIZED LUBRICATION SYSTEMS we eliminated many costly maintenance problems . . . saved production costs . . . and have not had a single case of machine failure due to lack of lubrication."



A crane and for the Master Mechanic of a prominent industrial manufacturer

*T*his company's Preventive Maintenance program includes installation of Lincoln Centralized Lubrication Systems on many types of production machinery. Cities manufacturing references covering measured applications of oil to all bearings of frequent good-humored interest.

*Lincoln* Centralized Lubrication Systems eliminate guesswork and old-fashioned methods. Deliver each and every bearing requiring grease or oil, insures the right lubricant in the right quantity at the right time.

Lincoln's lubrication specialist will work with you and recommend the time and money saving Centralized Lubrication System to meet your requirements. Write for the name of your nearby Distributor.

Distributed Nationally Through Leading Industrial Distributors Located in All Principal Cities

SEE OUR CATALOG IN SWEET'S

• • • PIONEER BUILDERS
**LINCOLN**
LUBRICATING EQUIPMENT • • •

LINCOLN ENGINEERING COMPANY, 5732 Natural Bridge, St. Louis 20, Mo.

## NEWS NOTES—Continued

*"Data on handling liquid wax"*

▼ FREE!!!—Identify by IEN - 8965 if you write the maker ▼

**GRINDING . . Grinding carbide tools is lead article in house publication**

Fagersta Co.
30 Pierce Street, Somerville 43, Mass.

**The importance** of sharpening carbide tools at the first sign of dulling is emphasized in the leader article in the July issue of "Grind and Groove." The article lists four points to watch. Your name will be added to the mailing list on request.

▼ FREE!!!—Identify by IEN - 8966 if you write the maker ▼

**HEATING . . Handling of liquid wax described in house publication on electric heating**

Chase Systems, Inc.
P. O. Box 1412-B, Grand Rapids 16, Mich.

**Current issue** of the "Tipscope," company's house publication, contains a survey of handling methods for liquid paraffin, a review of the company's equipment to keep wax molten in tanks and pipes, notes on proficient in handling wax.

▼ FREE!!!—Identify by IEN - 8967 if you write the maker ▼

**LAPPING . . Diamond abrasive powder, 16 page booklet sets forth trade standard on grading**

Elgin National Watch Co.
1969 National St., Elgin, Ill.

**Company announces** that its "Dymo" diamond compound now can be supplied to conform to recent trade standard just released by the National Bureau of Standards. It offers to send you a copy of 16-page Commercial Standards CS425-49 at their charge. This booklet defines properties such as purity.

▼ FREE!!!—Identify by IEN - 8968 if you write the maker ▼

**LUBRICATING . . Colloidal graphite for metal working described in data folder**

Acheson Colloids Corp.
2200 Washington Ave., Port Huron, Mich.

**Forging,** wire drawing, powder, deep drawing, cutting operations are among those described in 8-page Bulletin G8, just released. Application of "dag" colloidal graphite is described in each operation. A graph shows relative performance of two forging dies, one lubricated with Aquadag.

▼ FREE!!!—Identify by IEN - 8969 if you write the maker ▼

**LUMBER . . Service records for pressure-treated lumber in new booklet**

American Lumber & Treating Co.
230-34 S. Michigan Ave., Chicago 4, Ill.

**Service records** for 25 years have been compiled and published in new 44 page "Third Report" on Wolmanized pressure-treated lumber. These records are classified by application into wet process industries, docks and piers, railroad structures, bridges, mine timbers, refrigeration, buildings.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30*

▼ FREE!!!—Identify by IEN - 8970 if you write the maker ▼

**FREE! and IMPORTANT**

***Right now! Write for your FREE copy of this informative, well illustrated brochure that points up the many uses and advantages of***

*Clearsite*

**PLASTIC Selling Containers**

for the packaging of drills and tools, industrial jewels, taps and dies, screws, springs, nozzles, valves, fine machine parts, fishing tackle, electrical parts, and many, many others.

*Clearsite is made only by*

**CELLUPLASTIC**
CORPORATION
32 AVENUE L • NEWARK 5, N. J.

America's #1 Source for Plastic Containers • Established 1919

▼ FREE!!!—Identify by IEN - 8971 if you write the maker ▼

**GE Flexible CORDS**
FOR UNINTERRUPTED SERVICE

WHENEVER YOU NEED IT!

Keep portable electric tools operating with uninterrupted power—don't let delays caused by cord failures cost you money. Insist on hard working General Electric flexible cords wherever you make a cord replacement.

All General Electric cords are built to absorb rough handling and abuse. There are cords for every purpose—cords that can take repeated hard knocks and flexing . . . that resist water, oils, alkalies and grease . . . that withstand abrasion and exposure to the elements.

G-E flexible cords are made in a wide variety of types and sizes for light-, medium- and heavy-duty purposes. See them at your local General Electric distributor's—check their tough construction—you'll be convinced that G-E flexible cords pay off in longhaul service life.

Section W10-947, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

*You can put your confidence in—*

**GENERAL ELECTRIC**

▼ FREE!!!—Identify by IEN - 8972 if you write the maker ▼

**BE SURE OF SCRATCH-FREE FINISHING!**

**ELGIN DYMO**
**DIAMOND COMPOUND**

Pure, precision graded diamond particles assure fast, dependable mold polishing—free of possible scratches due to oversize abrasive particles! DYMO comes ready to use—brilliantly color identified to all Bureau of Standards grades—and will not cake or settle.

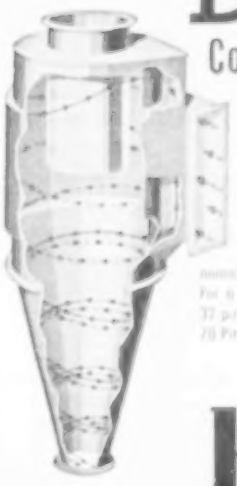
For finer, faster finishing, at lower cost, try Elgin DYMO today! Guaranteed to be in accordance with Bureau of Standards specifications.

Write today for **Free Demonstration**—right in your own plant.

INDUSTRIAL PRODUCTS DIVISION
ELGIN NATIONAL WATCH COMPANY
ELGIN, ILLINOIS

▼ FREE!!!—Identify by IEN - 8973 if you write the maker ▼

**Want the Answers on Dust Collection and Recovery?**



Every industrial engineer should know about the patented van Tongeren "dust-off." Exclusive in the Buell dust collection system, it makes possible dust collection that is efficient yet economical. Buell design eliminates plugging. For a full description, write for the new 32 page catalog to: Buell Engineering Co., 70 Pine St., Suite 3030, New York 5, N. Y.

**buell**

Engineered Efficiency in **DUST RECOVERY**

Manufacturing in the U. S. & Canada for Shipment Throughout North & South America

▼ BREVITY—Identify by IEN - 8974 if you write the maker ▼

*You can do a lot*

*with a little* **GOLD SEAL TAPE**

Wet or dry, hot or cold, in any weather, Gold Seal sticks to the job. Tears without traveling. Grows tighter, longer lasting joints. Ask for Gold Seal Tape or in single rolls. Jenkins Bros. (Rubber Div.), 100 Park Ave. Buy it by the carton (10 rolls)—you'll save time and trouble. New York 17, N. Y.

Jenkins Gold Seal Tape

JENKINS FRICTION...RUBBER

MADE BY JENKINS BROS. MAKERS OF FAMOUS JENKINS VALVES

▼ BREVITY—Identify by IEN - 8975 if you write the maker ▼

# LOOK!

*what's* **NEW!**

A BIG TIME AND LABOR SAVER

**DETROIT NUT DRIVER**

Again the Detroit Power Screwdriver Company leads the way. Having solved the problem of production screwdriving by replacing slow, hand methods with magazine fed power driver screwdrivers, it now breaks another bottle neck in the introduction of this new machine that will drive nuts with amazing speed, either semi-automatic, or it can be adapted to full automatic operation, entirely eliminating the manual handling of nuts except in half the hopper which feeds the nuts to the driving spindle. Capacity: Nuts, 5/16" max. to 1/2" max. across flats. . . . Will drive any nut within the range that can be selected and set in a uniform position. Get our catalog describing this new Nut Driver, our Power Screwdrivers, Motorized Hoppers and Special Assembling Machines. SEND SAMPLE ASSEMBLY FOR PRODUCTION ESTIMATE.

*Mail Coupon for Catalog*

DETROIT POWER SCREWDRIVER CO.
2815 WEST FORT ST., DETROIT 16, MICHIGAN
Yes, send along your new catalog . . . sounds interesting.
COMPANY NAME .....
BY .....
STREET ADDRESS .....
CITY ..... STATE .....

## NEWS NOTES—Continued

*"Stickers urge support of Hoover report"*

▼ BREVITY—Identify by IEN - 8977 if you write the maker ▼

**MANAGEMENT . . Short instruction courses to train men in everyday industrial economics**

American Economic Foundation
295 Madison Ave., New York 17, N. Y.

**Schedule** now is available for the Executive Seminars being held by the Foundation weekly up to the middle of December. These seminars take place in L. . . . . They are limited to 15 participants. They consist of instruction sessions to prepare your plant management men to call employee discussions of economics and to train others to do so. Details are given in a 4-page folder, available on request.

▼ BREVITY—Identify by IEN - 8978 if you write the maker ▼

**MANAGEMENT . . Sound color film shows 31 mechanisms to animate displays, presentations**

Gale Chandler Mechanisms
2149 S. Jackson Hoopeston, Ill.

**Light, motion, sound** are three major types of animation demonstrated by new 16-mm. film, "How to Attract Attention . . . through Animation". Prints are available for group viewing. The film shows how each type of animation is accomplished, reviews the mechanisms involved, points out the degree of standardization accomplished. Examples include product display, safety or training work.

▼ BREVITY—Identify by IEN - 8979 if you write the maker ▼

**MANAGEMENT . . Gummed stickers for your use to urge support for the Hoover Committee Report**

Citizens Ad. & Chamber Committee for the Hoover Report
220 Fifth Ave., New York 17, N. Y.

**"Better Government** at a Better Price" is the slogan carried by 40 stamps on 8½ x 11 in. sheets selling at 10 cents per sheet. The stamps urge support of the Hoover Committee Report on government reorganization. The money resulting from sales will be used to support the "Citizens Hoover Crusade" now touring the country.

▼ BREVITY—Identify by IEN - 8980 if you write the maker ▼

**METERS . . Industrial instruments the subject of new 400-page textbook on methods**

John Wiley & Sons Inc.
440 Fourth Ave., New York 16, N. Y.

**Author** of new "Industrial Instrumentation" is Donald P. Eckman, consulting engineer for Foxboro Corporation. The book stresses methods of measurement employed in industrial processing and manufacturing. It covers characteristics of measurements, expansion thermometers, thermoelectric and radiation temperature measurements, mechanical measurements, pressure and vacuum, head and rate, flows, process instrumentation. List price is $7.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10*

▼ BREVITY—Identify by IEN - 8981 if you write the maker ▼

. . *Write today*

FOR THIS HANDY

**STOW FLEXIBLE SHAFTING TORQUE CALCULATOR**

Gives you the information you need, simply, quickly. Eliminates lengthy calculation. And, just as surely, STOW flexible shafting is the right answer for any problem of transmitting power through a curved path, around obstacles, or from one level to another.

Write today, on your company letterhead, for your FREE, handy flexible shafting torque calculator. And remember STOW—first in flexible shafting since 1875.

**STOW MANUFACTURING CO.**
**25 Shear St. Binghamton, N. Y.**

▼ BREVITY—Identify by IEN - 8982 if you write the maker ▼

**A STOVE MANUFACTURER** — for reasons of economy, safety and added shipping space formerly cut off the unused curled up portion of steel strapping by hand. He now uses an A. J. Gerrard No. 601 Bulldozer tool with a built-in cutter which eliminates this operation.

Your "problem" can be easily solved. Call or write A. J. Gerrard & Co.

Saves Shipping Space . . .
No Occupational Hazard
No Waste of Time

Show, calculate for. Write for your free copy.

STEEL STRAPPING

**A. J. Gerrard & Co.**

190 HAWTHORNE BLVD. . . . MELROSE PARK, ILL.
(Chicago Suburb)

▼ BREVITY—Identify by IEN - 8983 if you write the maker ▼

# DETECTO SCALES

There is a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures the maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO-GRAM NEW PACKING SCALE

Write for Literature

**DETECTO · SCALES · INC.**
MAKERS OF FINE SCALES SINCE 1900
549E PARK AVENUE • BROOKLYN 5, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

▼ BREVITY—Identify by IEN - 8984 if you write the maker ▼

**COSTS ONLY $9.75**

SAVES TEN BUCKS WORTH OF TIME AND TROUBLE ALMOST EVERY TIME YOU USE

**This *Minute Man* MAGNETIC BASE**

for putting the dial indicator right where you want it — in a jiffy — and keeping it there! Alnico permanent magnet has powerful grip — guaranteed against loss — on all four sides.

MAIL THIS COUPON

The du MONT CORPORATION
Greenfield, Mass.
Please mail me Folder N describing multiple uses for *Minute Man* Magnetic Base.
Name
Company
Address

▼ KREFITT—Identify by IEN - 8985 if you write the maker ▼

Take the "ugh" out of tough cutting jobs!

**KETT**
**UNIVERSAL SAW**
**Z-I-P-S THROUGH SHEET METAL, PLYWOOD, PLASTICS AND COMPOSITION MATERIAL!**

IN the shop or on the job, here's the handiest handful of cutting power you've ever used. The Kett Saw cuts plastics and other soft material up to ¼" thick, aluminum to 3/16", and mild steel and galvanized metal up to 10 gauge, for intermittent use. No starting hole required to cut straight lines or curves of 6" radius or larger. Tough, long lasting blades are easily changed.

For complete information and action photos, write for Bulletin A-9

THE KETT TOOL COMPANY
3 EAST THIRD STREET CINCINNATI 2, OHIO

▼ KREFITT—Identify by IEN - 8986 if you write the maker ▼

# SYMBOL STAMPS

FOR
INSPECTION
IDENTIFYING
CODING
DATING
TESTING
GRADING

**JAS. H. MATTHEWS & CO.**
3948 FORBES ST., PITTSBURGH 13, PA.
NEW YORK BOSTON PHILADELPHIA CHICAGO
NEWARK SYRACUSE CLEVELAND CINCINNATI
DALLAS BIRMINGHAM LOS ANGELES

## NEWS NOTES—Continued

*"Procedure steps in plant layout"*

▼ KREFITT—Identify by IEN - 8988 if you write the maker ▼

**PLANT LAYOUT . . Book of 382 pages**
**on factors in plant layout and steps in procedure**

Kenrick Press Co.
[illegible] St., New York 10, N. Y.

Layout problems in new or existing plants are discussed along with steps in solution in new book, "Plant Layout and Materials Handling", list price $5. Author is Professor James M. Apple of Michigan State College School of Engineering. The book outlines a basic procedure, includes topics such as factors to consider, production planning, material handling equipment, operation planning, making the layout, plant location, buildings, and a classified bibliography.

▼ KREFITT—Identify by IEN - 8989 if you write the maker ▼

**PLASTICS . . Circular cardboard selector**
**has two dials to compare properties of 12 plastics**

Monsanto Chemical Co.
[illegible] Ave., Springfield 2, Mass.

Two identical dials on the face of new "Plastics Property Comparator" can be turned to register with windows so you can compare 15 specific properties of 12 plastic materials from acetate to vinyls. The back faces of the dials form a second comparator on materials test for plastic molding powder and low-pressure laminate plastics, wood. Size is 9½ by 5 inches.

▼ KREFITT—Identify by IEN - 8990 if you write the maker ▼

**PLASTICS . . Machining instructions**
**for nylon bar stock in new technical data bulletin**

Polymer Corp.
[illegible] St., Reading, Pa.

Recommended practice for machining nylon is subject of new 4-page Technical Bulletin No. 8. Specific instructions are given with speeds and tool angles for turning nylon, drilling, sawing, centerless grinding, threading.

▼ KREFITT—Identify by IEN - 8991 if you write the maker ▼

**ROPE . . Wall chart**
**lists data on manila, sisal, nylon ropes**

New Bedford Cordage Co.
P. O. Box [illegible], New Bedford, Mass.

Size range from ¼ to 3½ in. in new 11 by 17 in. Rope Reference Chart available on request. Data concerned against [illegible] weight, minimum breaking strength.

▼ KREFITT—Identify by IEN - 8992 if you write the maker ▼

**SAWING . . Instruction booklet**
**on circular saw blades and machines for metal**

[illegible] & Manufacturing Co.
[illegible] Avenue Ring, Cincinnati 15, Ohio

"Circular Sawing Handbook" from new 32-page pocket booklet which covers [illegible] on selection of pitch, speeds and feeds, modified operation, production economy, blade [illegible], sawing, [illegible] saw [illegible].

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

▼ KREFITT—Identify by IEN - 8993 if you write the maker ▼

EASY TO USE . . [illegible]
SAFE . . [illegible]
FAST . . [illegible]
EFFICIENT . . [illegible]
VERSATILE . . [illegible]
ECONOMICAL . . [illegible]

**F. J. LITTELL MACHINE CO.**

Write for Catalog
ROLL FEEDS • DIAL FEEDS • STRAIGHTENING MACHINES • REELS • AIR BLAST VALVES
4255 N. RAVENSWOOD AVE. • CHICAGO 13, ILL.

▼ KREFITT—Identify by IEN - 8994 if you write the maker ▼

YOU CAN BE SURE.. IF IT'S Westinghouse

**See why 1,000,000 Operations Fail to Phase MOTOR WATCHMAN**

The new Motor Watchman has just won a mechanical life test conducted by a large machine company. After 1 million operations they gave up trying to break the starter down. It stood up where others failed.

**GET THE FACTS FREE**

Get the complete story. See the amazing overload relay. Learn about "De-ion®" arc quenchers. Read about Bonderized enclosures. Send for your free copy of Motor Watchman, B-4715. Or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. 15-00430

Westinghouse
"DE-ION" MOTOR WATCHMAN

▼ KREFITT—Identify by IEN - 8995 if you write the maker ▼

No finger smear
No drawing smudge
with A. W. FABER'S quick-action
**LOCKTITE** black or colored
**REFILL DRAWING PENCIL**

Patented collet clutches lead in bull dog grip — prevents breaking or slipping back into holder.

Holds all the standard graded drawing or retouching leads. WINNER Techno-TONE 1930—degrees 7B to 9H—assures best results.

Also available in RED, BLUE, GREEN, YELLOW, CARMINE, ORANGE, WHITE, and SILVER holding sturdy WINNER-Techno-TONE crayon leads for coloring, sketching and checking.

*Unconditionally guaranteed*

AW FABER-CASTELL PENCIL COMPANY INC. NEWARK, N.J.

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# A "MUST" FOR EQUIPMENT

That is Exposed to Moisture, Acid Fumes, Rust and Corrosion

## RAPID ASPHALT PAINT

Whenever water, weather or chemical attack are dangers to equipment, use Ruberoid Rapid Asphalt Paint for economical, durable protection. Composed of high grade bitumens, this asphalt paint is a tough enough to bear acid and alkali conditions.

Ready to use, easily applied by brush or spray, it quickly dries to a tough, tite surface. Almost any surface can have Rapid Asphalt Paint protection. Metal, wood, masonry or concrete—this tough, waterproof paint adheres strongly and permanently.

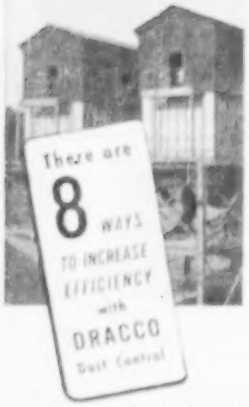
- High resistance to acid and alkali—protects against water and exposure
- Heat resistant—stands temperatures up to 212° F.
- Highly penetrant—preserves wood
- Excellent electrical insulation qualities
- Prevents corrosion, rust, rot and deterioration
- Tasteless and odorless when dry

Write for descriptive literature

**The RUBEROID Co.**
Building Materials for Industry, Home and Form
Executive Offices: 500 Fifth Avenue, New York 18, N. Y.

▼ FREE!!! Identify by IEN-8997 if you write the maker ▼

DRACCO DUST CONTROL Recovers
80 to 100 TONS
Per Day




If it were possible to compute the value of recoveries made by DRACCO Dust Control, it would run into MANY MILLIONS each year. In this installation, 5A compartments DH Type handle 280,000 C.F.M. of air per minute and remove from 80 to 100 tons of dust per day. DRACCO Dust Control saves money by increasing plant efficiency in 8 ways. If you have Dust, find out from DRACCO Engineers how many of the 8 ways will save YOU money. Consult DRACCO Engineers for an analysis of your dust or fume problem.

For Further Information Write

DRACCO CORPORATION
4049 E. 116th Street, Cleveland 5, Ohio

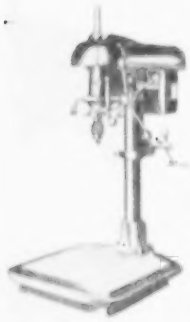
PNEUMATIC CONVEYORS • DUST COLLECTORS



▼ FREE!!! Identify by IEN-8998 if you write the maker ▼

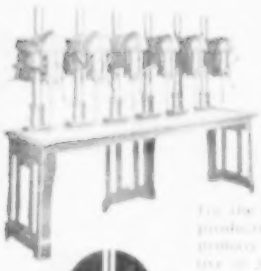
Cut your production costs

WALKER-TURNER
designed
DRILL PRESSES



cover a wide range of models, speeds, service

15" PRODUCTION MODEL
4 speeds: 800, 1150, 1440, 3000 r.p.m.
Spindle travel: 4 in.
Capacity: 18 in. from chuck to table.
Head Construction: one-piece gray iron casting, machined for greater accuracy.
Compact, portable: can be bolted to assembly line, reducing handling cost.
Adaptable for sanding, grinding, mortising, shaping and other metal and woodworking operations. Bench and floor models.



20" DRILL PRESS
6 Spindle, Hand Feed
Speeds: 725, 850, 1000, 1200, 1400, 2400 r.p.m. (4 speeds)
Capacity: 4 in.
Spindle travel: 3 in.
Head Construction: one-piece gray iron casting, machined for accuracy.
For the industrial users where the production rate and hand cost are primary factors. Particularly effective in increasing production on many jobs where a series of holes are to be drilled, tapped, reamed or counterbored at a rapid quick. Other multiple spindle machines from 2 to 6 spindles.

walker turner

SOLD ONLY THROUGH AUTHORIZED DEALERS

SEE YOUR LOCAL DEALER or consult Yellow Pages under "Drill Presses" or "Machine Tools" or write Walker-Turner Division, Kearney & Trecker Corporation, Milwaukee 1, Wisconsin.

KEARNEY & TRECKER MILWAUKEE
WALKER-TURNER DIVISION
PLAINFIELD, NEW JERSEY

WALKER-TURNER DIVISION
Kearney & Trecker Corp., Dept. IEN, Plainfield, N. J.
Please send me a copy of the complete Walker-Turner Catalog.
Name
Firm
Address
City Zone State


## NEWS NOTES—Concluded

*"Material handling by power trucks"*

▼ FREE!!! Identify by IEN-9000 if you write the maker ▼

**STRIPPING . . . Instruction bulletin**
**on four methods of stripping paint from surfaces**

"How to Strip Paint" (Form . . .) Orange pocket bulletin that describes methods and materials "strong enough, but non-toxic, non-explosive, non-inflammable." Methods are detailed. Notes are included on preparing the stripped surfaces for repainting or for inspection when it.

▼ FREE!!! Identify by IEN-9001 if you write the maker ▼

**TRUCKS . . . Information bulletin**
**on material handling by industrial power trucks**

Four sections (8 pages, 12 pages, 11 pages, 12 pages) Material Handling with Industrial Trucks: "Trucks" . . . the economics of motive power; Truck handling material handling management, equipment and operation; Truck storage, operation; Truck engineering, the handling and lifting equipment, carrier and truck accessories. Free on request. Specify section(s) desired when requesting.

▼ FREE!!! Identify by IEN-9002 if you write the maker ▼

**VENTILATING . . . Cardboard slide selector**
**for size of air conditioning and ventilating grilles**

"Uni-Flo" Grille and Register Selector is an 11 by 7 in. unit, engineered on grid for and printed because of material shortages. It is offered without charge as though it originally carried a 50¢ list price. It enables you to determine the correct model or number of grille based on noise, area and volume. Three cases height.

▼ FREE!!! Identify by IEN-9003 if you write the maker ▼

**WELDING . . . Prize contest**
**for technical papers on non-fusion welding**

Contest Welding Alloys Corp.
40 E. Gerrard St., New York 3, N. Y.

First prize is $500, second prize is $300 and third prize is $200 in each contest which opens this month and closes May 31, 1951. Technical papers on research and development of non-fusion welding and brazing are invited. A set of rules governing the contest will be sent upon request.

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▼ FREE!!! Identify by IEN-9004 if you write the maker ▼

SAVE ON OVERHEAD MAINTENANCE AND REPAIR SAFELY with

BAKER SCAFFOLDS

Baker Scaffolds provide the safest method of work at any point where you can work off the floor.

Fully adjustable Baker Scaffolds allow you to work at the right height to do the job best, faster and safer. No 4 hour installation period, no gathering of manpower, equipment and materials. They are quickly stacked for height and are easily moved by one man. Write today for Bulletin 402.

Distributed . . . Rental Corp.
Listed under . . . Scaffolding Service
Underwriters Laboratories, Inc.

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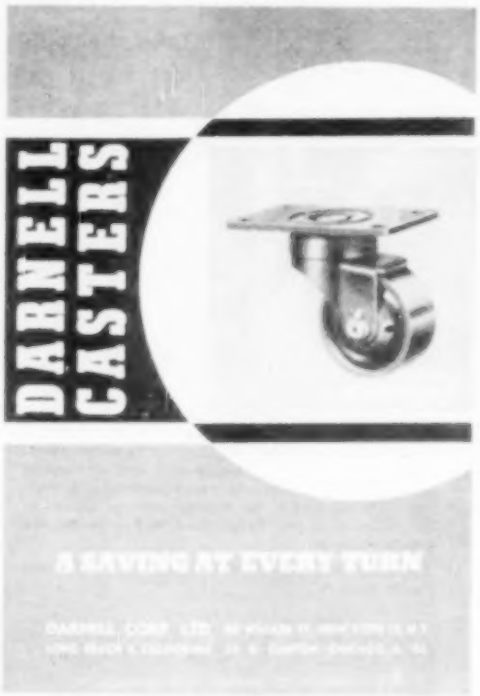
INDIANAPOLIS 6, INDIANA



▼ FREE!!! Identify by IEN-9005 if you write the maker ▼




▼ FREE!!! Identify by IEN-9006 if you write the maker ▼

Mechanic's INSPECTION TOOLS
WITH REPLACEABLE MIRRORS!

Telescoping handle extends to 16"

Model K-2 $1.75

Overall length 8½"
Model B-2 $1.25

Overall length 7½"
Model A-2 $1.00

★ Perfect visibility all around
★ Easily turned 360° ball joint
★ Keep position until re-angled
★ Sizes and shapes to meet all job conditions
★ Replaceable mirrors
★ Magnifier mirrors slightly higher

Write for Catalog IE-5 when ordering

ULLMAN PRODUCTS CORP. ULLMAN BLDG. B'KLYN 15, N. Y.



▼ FREE!!! Identify by IEN-9007 if you write the maker ▼

CANNON PLUGS

UA SERIES
(Ultimate Audio Connectors)
THREE 15-AMP. CONTACTS

Latest development in the connector phase of audioengineering is the new series of microphone and sound circuit connectors designed and built by Cannon Electric to RMA Committee requirements and standards. Briefly, following features should be noted: 1. Safety latchlock. 2. Shockproof & FULL-Floating Socket Contacts. 3. Splashproof. 4. Steel plug shells. 5. Rubber sleeve for cable relief. 6. Grounding Contact. 7. Gold plated 15-amp. contacts for low loss.

Write to Cannon Electric Development Company, Division of Cannon Manufacturing Corporation, 200 Boardwalk Street, Los Angeles 31, California, or contact one of the 20 Cannon representatives located in principal U. S. & Foreign Countries, plant and offices. Cannon, Inc., Export Division & Branch, San Francisco.

SINCE 1915
CANNON ELECTRIC

▼ BRIEFITS—Identify by IEN-9008 if you write the maker ▼

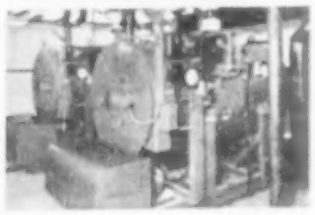
## $1,000 Per Month SAVED
## $20,000 Annually SAVED

THESE ARE ACTUAL CASE HISTORIES

HOW MUCH CAN YOU SAVE
with a modern STEAM-PAK
fully automatic Steam Generator

SAVE FUEL
with oil, gas
or combination

SAVE LABOR
with fully auto
matic operation



Steam-Pak Generators are built in capacities from 15 H.P. up, for low or high pressure steam or hot water, for light or heavy oil, combination gas and oil or straight gas. CAN YOU SAVE MONEY with a Steam-Pak? Ask a qualified engineer—a York-Power Distributor, or call

**YORK-SHIPLEY**
INDUSTRIAL DIVISION
918 Jessop Place, York, Pa. 'Phone 7861

▼ BRIEFITS—Identify by IEN-9009 if you write the maker ▼

## 2846 STOCK ITEMS of STAINLESS WELDING FITTINGS

**FLOWLINE**
TRADE MARK
STAINLESS WELDING FITTINGS
WELDING FITTINGS CORPORATION, NEW CASTLE, PENNSYLVANIA
World's Largest Manufacturer of Stainless Welding Fittings

▼ BRIEFITS—Identify by IEN-9010 if you write the maker ▼

## Announcing... 2 more BLAZECRETE Hydraulic-setting REFRACTORIES

To take up with the highly successful 3X BLAZECRETE Johns-Manville has developed these 2 new refractories designed for low-to-intermediate-temperature applications. They can be flipped into place and screwed smooth with no vibrating or tamping — yet can be gunned.

1. Standard BLAZECRETE—(2000F or 2400F) For building and repairing old refractory linings. Makes brickwork repairs easier, less costly than using "plastics." For use by boiler manufacturers to replace fire clay tile in wall construction. No preheating required.

2. L.W. BLAZECRETE—(2000F) A new insulating refractory for use in building new linings, repairing old. It's light-weight—adherable and also insulating for high temperature applications.

Now famous 3X BLAZECRETE (2400F) For heavy pour-backing, especially where brickwork is spalled or deeply eroded. Also for repairing large furnace linings, furnace blocks and bonding bricks in furnace and non-ferrous foundries.

All Blazecrete products hardened after only 6 hours of air curing — will flow by hand or left standing indefinitely. Write Johns-Manville, Box 290, N. Y. 16, N. Y.

**Johns-Manville BLAZECRETE REFRACTORIES for patching and gunning**

▼ BRIEFITS—Identify by IEN-9011 if you write the maker ▼

## BRIQUETTING . . Hydraulic machine five sizes rate 3/4 to 3 1/2 ton per hor.

Source: SPO INC.
6450-54 Grand Division Ave., Cleveland 5, Ohio

Five sizes are now in use in the manufacturer's line of hydraulic briquetting presses. The model illustrated, handling Turnings, has a capacity of 3½ tons per hour for the low-density chips. Size of the briquettes is determined by the manufacturer's Minimum Pressure Equipment. Density, then, can be controlled by feeding and pressure. Operation is operated by foot and hand.

**Turnings** of various sizes and densities can be briquetted. Only the risk of an occasional jammed machine is a disadvantage. Briquettes are easily made, handled, stacked and shipped. Briquetting is a necessary step in the finish line in the metals industry. Briquetting prevents loss of valuable metal in the form of chips, and makes it possible to ship the large volume of chips in a compact form. The briquettes are easily handled, stacked and shipped. The briquetting machine is a little involved in operation. Thereby, equipment costs are high, and the long operation. Thereby, equipment costs are high, and the long operation. Thereby, equipment is required by one or two operators. Power through a hydraulic system is required. Size of briquette is determined by the manufacturer's Minimum Pressure Equipment. Density, then, can be controlled by feeding and pressure. Operation is operated by foot and hand.

▼ BRIEFITS—Identify by IEN-9012 if you write the maker ▼

## BRAZING . . Copper-nickel alloy faced with brazing material for tools

Source: GENERAL PLATE DIVISION
41-45 Forest St., Attleboro, Mass.

**Boodwich** blade cutter now contained assembly of copper-nickel alloy with 75% brazing material (silver) into a unit long that has to be cut to provide the required piece with which to braze carbide tips in place on the shaper. The resulting brazing operation is necessary because of prevention of flow for a good brazing work.

**Strip width** range from 1 to 3 inches. Thickness is 1/16 to 1/8 inch. Other sizes and special broaches shapes can be made of quantity order. The brazing material is the common Type BCuP-5 (Copper 80 per cent of the total) or Brass (Copper 60 per cent of the total).

All Makers of These And Its Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFITS—Identify by IEN-9013 if you write the maker ▼

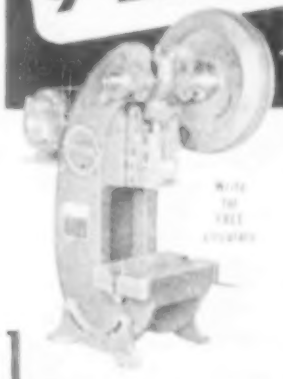
. . . YOU'LL SAVE WITH A
*Humphrey* GAS UNIT HEATER

Complete heating units that save in many ways. They require no steam or water lines; no fuel storage; no boiler equipment; no fireman. Heat is generated within unit and forced to every corner of the room. *Write for complete specifications.*

**GENERAL GAS LIGHT COMPANY**
KALAMAZOO, MICHIGAN

▼ BRIEFITS—Identify by IEN-9014 if you write the maker ▼

## NEW 7½ TON PUNCH PRESS OFFERS 9" DIE SPACE!



Ample working space for easier tooling, feeding, ejection of large slugs.

ALSO AVAILABLE
1-Ton and 4-Ton Standard, and 4-Ton Deep-Throat Models.

Dept. 100

**benchmaster** PUNCH PRESSES AND MILLERS
2952 West Pico Boulevard, Los Angeles 6, California

▼ BRIEFITS—Identify by IEN-9015 if you write the maker ▼

**FOR BETTER, FASTER CUTTING AT LESS COST**

Starrett HACK SAWS

**ALL FROM ONE DEPENDABLE SOURCE**

Starrett BAND SAWS

STARRETT Band Saws for cutting metal, wood, plastics. Furnished in coils in low, high and low alloy or in length and welded.

**PRECISION MADE BY THE WORLD'S GREATEST TOOLMAKERS**

Starrett BAND KNIVES

For soft or tough materials. Available in a complete range of sizes in straight edge, scallop edge or any other tooth-edge or double bevel.

COMPLETE INFORMATION—Starrett Hacksaw and Band Saw Catalog gives cost, performance and application data for the complete line of hacksaws, band saws and band knives. Write for your FREE copy. Address Department N.

**Starrett** Standard of Precision
Hacksaw and Hacksaw Frames and Blades — Band Saws and Band Knives — Hand Saws — Tool Sets — Micrometers — Dial Indicators — Gage Blocks — Rules and Rule Sets — Precision Levels — Precision Tools — Tools for Machinists
Buy Through Your Distributor

THE L. S. STARRETT CO. — Hand Tools Exclusively — ATHOL, MASSACHUSETTS, U. S. A.

▼ BRIEFITS—Identify by IEN-9016 if you write the maker ▼

## NEW 7½ lb. self-rotating hammer drill

Air-operated, the CP-9 drills holes in masonry, concrete and stone to 1½" diameter, doing same work as non-rotating tools of triple its weight. 14½" long, readily operated by one hand, even for up-drilling. Steels can be changed quickly; it also handles non-rotating chisels. A marvelous drill for plumbers, electricians, builders, maintenance crews. Write for copy of SP-3016.

**CHICAGO PNEUMATIC TOOL COMPANY**
General Offices: 8 East 46th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

BREEZE—Identify by IEN-9017 if you write the maker

## IMPROVE YOUR OVERHEAD CONVEYOR SYSTEM—

Specify LINK-BELT Ball Bearing Trolleys

The simplified, drop-forged Link-Belt ball bearing trolley will help you reduce your maintenance costs. With bearings adequately lubricated and sealed, operation is smooth, quiet and efficient. Easily and quickly installed on new or existing systems. Low initial cost and extremely long life expectancy.

Send for Folder 2241-B.

LINK-BELT COMPANY

Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Boston 9, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Stocks, Branch Stores and Distributors in Principal Cities.

BREEZE—Identify by IEN-9018 if you write the maker

## INDIVIDUAL CUTTING OIL SANITATION

FOR YOUR PLANT!

Here's how to prevent costly coolant spoilage and eliminate foul odors: ask your DOLGE Service Man to take samples of your coolant for free bacteriological and chemical analysis. A complete laboratory report will show the correct coolant handling method for your particular operation.

Only if tests warrant it will a DOLGE STERIDOL GERMICIDE be recommended—a "tailor-made" preparation to meet your exact needs. Used as directed it will not irritate the skin or corrode metals. The cost?—Far less than a cent per gallon of coolant!

*Write for Booklet "Cutting Oil Sanitation"*

STERIDOL

THE C. B. DOLGE CO.
WESTPORT, CONNECTICUT

BREEZE—Identify by IEN-9019 if you write the maker

500 GPM *WaterFOG* NOZZLE operating from Aerial Ladder Quickly Blackens Huge Fire

*Entire 3rd Floor cleared of smoke and hot gases immediately permitting firemen to advance into building with handlines in one minute—Fire under control within 5 minutes.*

A huge 500 GPM Rockwood WaterFOG Nozzle, utilizing a new type of attack from an aerial ladder placed on opposite side of building and a two alarm fire in a 3 story building.

The fire originated on the 2nd floor and extended to the 3rd floor by means of an inside stairway and elevator shaft. Firemen were unable to advance with handlines due to intense heat. Rockwood 500 GPM WaterFOG Nozzle went into operation and in less than a minute the entire 3rd floor area was blackened out. Handlines were then brought in and within 5 minutes the fire was under control.

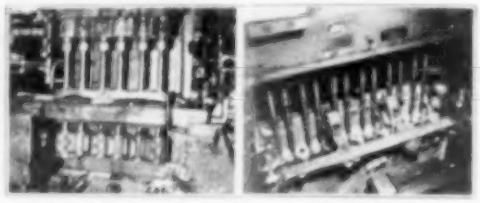
For more complete information write for Bulletin 8-203.

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 5, MASS.

BREEZE—Identify by IEN-9020 if you write the maker

## CLEANING . . Rotary wire brushes remove excess oil from engine blocks

Source: OSBORN MFG. CO.
5402 Hamilton Ave., Cleveland 14, Ohio



**New application** for wire brushes accompanied by special design of the brush heads is employed by an engine builder to remove excess lubricant oil from the engine cylinders and the valve tapped holes. The brushes for the cylinder are made with segments that can move radially outward. They are driven by a multiple-head vertical boring machine. The brush measures 4½ in. in length and is made of .008 in. crimped wire. Brushes have 15 rpm. Eight cylinders in and out complete the operation in about a minute.

**The smaller** tapped hole brushes are made of .007 in. crimped wire, are 6 in. in length, rotate at 800 rpm. In the spindles of a vertical drilling machine. Cleaning interval is 20 seconds.

BREEZE—Identify by IEN-9021 if you write the maker

## SOLDERING . . Paste compounds in nine types in kit with a torch

Source: FUSION ENGINEERING
4502-6 Superior Ave., Cleveland 3, Ohio

Kit lists at $11

Fusion Type K9 is a new kit consisting of nine of the company's pastetype compounds, previously described. IEN-9201-17, with a surfacing dip for torch. The compounds combine creamy flux, cooling agent and solder and are suited for silver soldering work on most metals.

BREEZE—Identify by IEN-9022 if you write the maker

## SEALING . . Spiral rod packing with vulcanized tape back, six styles

Source: CRANE PACKING CO.
1815 Cuyler Ave., Chicago 13, Ill.

**New design** of the company's spiral rod packing is made in a plastic type backing that carries molded-in seal for each of the six alternate types of use. It also permits compression the spiral molded-in seal, a dual shaft is not required instead of one. The packing is made of anti-friction material, permitting fluids to lubricate backrods and sidewalls. It is constant soft and pliable in extreme temperatures and can be removed when worn and for additional stages.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

BREEZE—Identify by IEN-9023 if you write the maker

## choose LAUSON the long-life engine

Insist on Lauson — the engine that's first in quality! Here are just a few of the superior construction features which make Lauson the Long-Life engine: Connecting rods have replaceable crank-pin bearing liners.

- Precision ball bearings on both ends of crankshaft
- Fly-ball governor running in oil
- Automotive-type float feed carburetor
- Lauson original design provides direct stream of fuel on over both valves simultaneously
- Always choose Lauson engines — a better buy because they're better built!

The LAUSON Company

BREEZE—Identify by IEN-9024 if you write the maker

*A wide choice of shapes and sizes*

## LAMSON "BENT" BOLTS

Possibly you've never considered these products as "bolts". In reality they're threaded fasteners made in various shapes to meet special needs. At a group, we call them "Bent" Bolts.

If you require similar "special" types of fasteners, it will pay you to check with Lamson. Chances are we can save you real money.

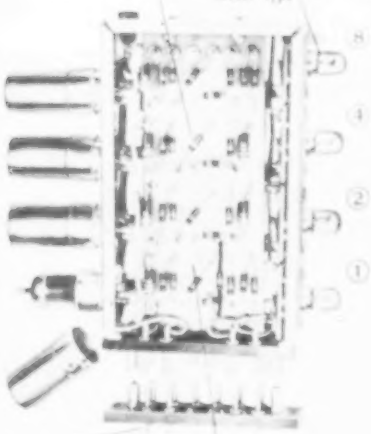
THE LAMSON & SESSIONS COMPANY
1974 West 85th Street, Cleveland 2, Ohio

Lamson & Sessions
"One Dependable Source for All Fastener Needs"

BREEZE—Identify by IEN-9025 if you write the maker

## Simple · Reliable · Economical

# Potter decimal counter




Direct-decimal readout — four neon glow lamps designated 1-2-4-8 provide direct indication (0-9) and instantaneous location of any defective tube.

Stable operation — wide voltage range.

High counting rates — up to 120,000 per second. Also-lite accuracy guaranteed.

Covered by both I.B.M. and Potter patents issued and pending.

WRITE DEPT. EN FOR COMPLETE INFORMATION AND QUANTITY DISCOUNTS

A NEW LOW UNIT PRICE OF $45.00 IS ANNOUNCED AS A RESULT OF WIDE ACCEPTANCE AND QUANTITY PRODUCTION

POTTER INSTRUMENT CO.
INCORPORATED
115 CUTTER MILL RD., GREAT NECK, NEW YORK

▼ FREEFITT—Identify by IEN-9027 if you write the maker ▼

NEW HELICAL-MAGNETIC ACTION!

DWYER

## MAGNEHELIC GAGES

for

MEASURING LIGHT AIR PRESSURES

- Flexible Diaphragm
- Cantilever Spring is deflected by diaphragm movement in proportion to pressure change
- Magnet attached to cantilever end of spring
- Helical Pointer Assembly mounted vertically between magnet ends
- Magnet forms helical assembly to rotate pointer against resistance to maintain pointer on line as spring and magnet are deflected proportionally by pressure

The first really new development in air measurement in the last decade! Frictionless accurate—instantaneous. No bearing or links to wear. Cannot be damaged by sudden surges. The Magnehelic Gage is not a delicate instrument and requires no special precautions to use.

Request Bulletin No. 200 for complete data

**F. W. Dwyer Mfg. Co.**

107 SOUTH WESTERN AVENUE CHICAGO 12, ILLINOIS

▼ FREEFITT—Identify by IEN-9028 if you write the maker ▼

## SAVE 27% ON PHOTO COPYING PAPER!

PHOTO Flex sensitized papers are sold only by mail—direct to users. That's why the much lower prices represent an average saving of 27% or more for photo copying departments—large and small.

There's a wide range of grades, sizes and weights available—both for contact photo copying machines like Apeco, Hoover, Portograph, and the camera type such as Photostat, Rectigraph and Designph.

PHOTO Flex is a high grade, quality paper guaranteed to produce excellent copies. Among its many users are some of the largest photo copying departments in the industrial and other fields.

### Investigate!

Without cost or obligation, you can investigate the worthwhile saving YOU, too, can make.

Just tell us the make of photo copying machine and paper you are using and we'll send you DELIVERED prices on comparable PHOTO Flex paper with free testing samples.

PHOTO Flex BRAND

*Write Today!*

THE BACUM CORPORATION
936 EXCHANGE STREET
ROCHESTER 8, N. Y.

▼ FREEFITT—Identify by IEN-9029 if you write the maker ▼

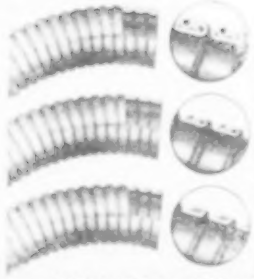
*Any Type, Any Size Any Metal*

## UNIVERSAL *Flexible* METAL HOSE

EXHAUST • SUCTION • BLOWER HOSE
CONDUIT • PRESSURE HOSE • FITTINGS

Universal has the exact type and size flexible metal hose you require for conveying solids, fluids or gases at all temperatures and pressures. Universal gives you extra dividends in performance at no extra cost—trouble-free service, ease of handling, long life. Universal Metal Hose has been tested and proved through years of use for flexibility, strength, protection from leaking, resistance to corrosion, heat, constant motion and vibration. Simplify your selection, step up efficiency at a saving. Check UNIVERSAL HOSE Now!

•



INTERLOCKED HOSE: FREE-FLEX METAL—Rust, heat resistant, flexible, tight, heavy, interlocked jacket. Sizes to 3". Illustrated.

"FLEX" LOCKED LOOK FREE-FLEX TUBING—Heavy duty, light weight type. Sizes to 24". Illustrated.

SQUARE-LOCKED LOOK FREE-FLEX TUBING—Rust and abrasion resistant, for inflexible flows in air, engine, fuel, water, lubricating, vacuum, chemical and other lines. Sizes to 6". Illustrated.

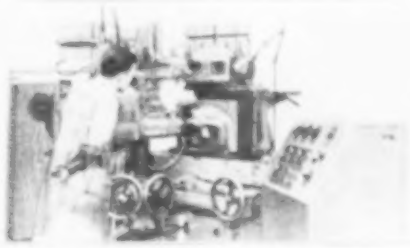
Send specifications today—ask for catalog 10-50 covering the types of Universal Metal Hose and fittings.

UNIVERSAL METAL HOSE CO.
2131 South Kedzie Ave. Chicago 23, Ill.

▼ FREEFITT—Identify by IEN-9030 if you write the maker ▼

## MILLING . . Tracer controlled machine produces dies, molds from a pattern

Source: PRATT & WHITNEY DIV.
49 Charter Oak Blvd., West Hartford 1, Conn.



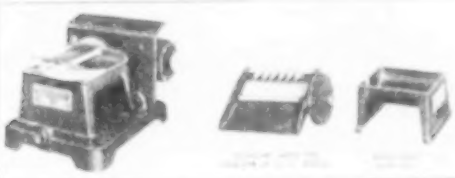
**New design** of the company's Type III Keller tracer controlled milling machine employs [illegible] to shift for the longitudinal, transverse and vertical movements in which are variable speed motors and magnetic clutches. These operate in conjunction with an electric tracer for continuous speed variation, depending on stage of the cycle machine which the tracer is following at any given moment. Dies are formed by an electrical tracer that envelopes metal templates before a cutter can be started while forging the cutter action up to its capacity. Flat cutters automatically at the edge of an irregular form or cavity so MR machine must spend its time in idle movement. Speed in each of the three directions is variable between 6 and 20 ipm. The step feed, generated a range from .010 to 4 in. or .01 in. increments, is determined by the cutting edges for all of the three dimensions.

**The machine** is available in two sizes with table measuring 42 by 22 in. and 48 by 26 inches. Movements are 24 and 16 in. longitudinally, 16 and 20 in. vertically, 8 in. in transverse direction. Adjustment in the spindle adds 4 in. transversely. The spindle is driven at 80 to 2,000 rpm. Adjustable distance between spindle and tracer motors in single-spindle assembly is 16 to 22 in. and 16 to 26 inches. Floor space is 96 by 86 in. and 101 by 89 in. without the motor cabinet. It measures 41 to 72 in. in overall dimensions.

▼ FREEFITT—Identify by IEN-9031 if you write the maker ▼

## MARKING . . Glue spreading machine for labels measuring to 4 in. in width

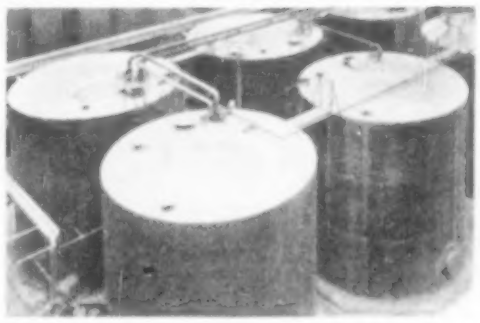
Source: POTDEVIN MACHINE CO.
1285 38th St., Brooklyn 18, N. Y.



**Mini Labeler** is a new model diffusing machine in the company's line of glue spreading machines. It mounts interchangeable heads for continuous application of a 1/16 in. margin or variable spreading on labels to 4 in. in width and any length. The labeler includes a Bruno moistener and vital up water flow will be variable. The reservoir is removable for cleaning. Overall dimensions are 12 by 14 by 21½ inches.

All Makers of Flexes And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 38

▼ FREEFITT—Identify by IEN-9032 if you write the maker ▼



## Handling or Storing Liquids?

Whatever the liquid may be—volatile hydrocarbons, corrosive fluid, corrosive material, or just plain water—there's a Horton tank designed specifically to handle it. We are equipped to fabricate tank from carbon steel, or from stainless steel, monel, clad, aluminum and other corrosion-resistant alloys. Write your nearest office for operation-suiting number of tanks needed, capacity, and special dimensions if necessary.

*"Trade name for products built by the . . .*

**CHICAGO BRIDGE & IRON COMPANY**
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • Salt Lake City
San Francisco • Seattle • Tulsa
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

▼ FREEFITT—Identify by IEN-9033 if you write the maker ▼

## Announcing the NEW improved Royal stools with Foam Rubber seats

### No. 668 STOOL

- New 2" thick FOAM RUBBER seat provides the ultimate in comfort and efficiency
- New longer screw that affords positive swivel action
- Equipped with rubber, carbon steel floor guides

**60 DAY Free TRIAL**
examine it . . . test it . . .
use it without obligation

WRITE TODAY FOR DETAILS!

ROYAL METAL MFG. CO.
175 N. MICHIGAN AVENUE
CHICAGO 1, ILLINOIS

▼ FREEFITT—Identify by IEN-9034 if you write the maker ▼

## *cost reduction and greater production*

The principal function of mechanical handling

The keen competition characteristic of the automotive industry is common knowledge. Likewise, that industry's early acceptance of any device or system by which manufacturing costs may be reduced to obtain a price advantage.

It is significant that the coal conscious automotive industry, with its highly competent engineering, has completely absorbed some MHS products than any other. Also that MHS conveyor systems have done much to aid this industry in bringing its cost and production to current levels.

Let MHS Engineers survey your production and handling operations.

MECHANICAL HANDLING SYSTEMS, INC.
4605 NANCY AVE., DETROIT 12, MICH.
Offices in Principal Cities

▼ FREEFITT—Identify by IEN-9035 if you write the maker ▼

A fastener AIN'T, *if—*
*it works loose.*

The "FLEXLOC" IS—
*because it won't!*

FLEXLOC

ONE-PIECE, ALL-METAL
STOP- and LOCK-NUT

Its "chuck-like" resilient locking segments lock the "FLEXLOC" securely in any position as a threaded member with a controlled, uniform and dependable torque.

Tough applications demonstrate that the "FLEXLOC" positively "won't work loose", yet it can be removed easily with a wrench when desired. Because it is all-metal, temperatures as high as 550°F. hold no terrors for the "FLEXLOC."

The "FLEXLOC" has plenty of tensile . . . can be re-used many times . . . has therefore a long, effective life.

Write for further information and free samples.

"See us at Booth 2424, Convention of National Metal Congress and Exposition, Chicago, Oct. 23 to 27."

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 19, PENNSYLVANIA

BREVITY—identify by IEN-9036 if you write the maker

# SYNTRON
"Pulating Magnet"
# ELECTRIC VIBRATORS

**Flow Stubborn Materials**

**Thru Bins, Hoppers**

**And Chutes**

3600 vibrations per minute—with controlled intensity—break down arching and plugging.

Eliminate hammering, rodding and picking that eats up costly manpower—that steals valuable time from all dependent operations. Eliminate bogged-up and dented bins that cost money in replacement.

Wide range of sizes available to solve your problems.

**SAVE MANPOWER**

**SAVE TIME**

**SAVE BINS**

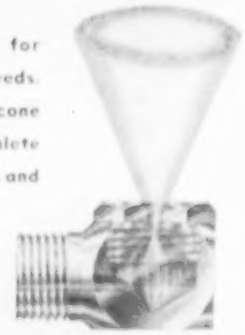
WRITE TO

**SYNTRON CO.**
410 Lexington Ave. Homer City, Pa.

BREVITY—identify by IEN-9037 if you write the maker

# SPRAY NOZZLES

Specify Delavan for your spray nozzle needs. Solid cone, hollow cone and flat sprays. Complete range of spray angles and capacities for various pressures.



WRITE NOW FOR

CATALOG NO. 30

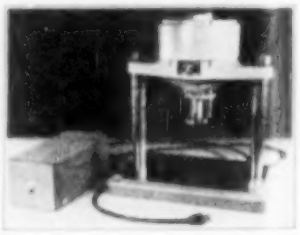
**DELAVAN MANUFACTURING CO.**
3009 SIXTH AVENUE
DES MOINES 13, IOWA

BREVITY—identify by IEN-9038 if you write the maker

BREVITY—identify by IEN-9039 if you write the maker

## PRESS . . Solenoid operated for stapling, riveting, light punching

Source: BLACK & WEBSTER INC.
28-32 Pleasant St., Needham 92, Mass.



Electropress is a new design in the company's line of solenoid-operated bench-mounting equipment, previously described IEN 2159-10. It can be employed in impact or squeeze or a combination of the two starting with the initial impact and following through with maximum squeeze. Operation is on rectified 110-volt ac. Impact is about 15 amp during the power stroke only.

The moving element operates in a bronze guide bushing for maximum stroke of 1 7/16 in. and working height between spindle and base is a maximum of 4 3/4 inches. The base is shifted to secure 5/8-inch to place. Overall height is 10 1/2 inches. Weight is 40 pounds. Clamps on the posts on the two sides provide adjustment in weight in 1/4, 1/2, 1 and 2 1/2 amps. Fine adjustment through 5/8 in. is by a thread on the ram. A positive stop provides adjustment for work penetration. Impact is maximum based on a 1/2 in. stroke. Squeeze is to 2,000 lb. at the end of the stroke for the moving element.

BREVITY—identify by IEN-9040 if you write the maker

## GRINDING . . Mounted wheels, nine each of sixteen sizes and types

Source: SCHUPACK SUPPLY CO.
7329-31 Cottage Grove Ave., Chicago 19, Ill.

Please note this price correction

We have been asked to point out that the $28.50 price we quoted as of 2-0 on description IEN 2219-20 of the company's 111 set assortment of grinding wheels is not subject to any discount. It is in fact the net retail selling price.

BREVITY—identify by IEN-9041 if you write the maker

## STRAPPING . . Hand cutting tool, two sizes for strapping to 2 inches

Source: A. J. GERRARD & CO.
1948-52 N. Hawthorne Ave., Melrose Park, Ill.

Lower jaw in this new strapping cutter is tapered for easy insertion under a strap that is to be cut. The offset handle assists in the insertion with the tool flat on the strapped surface. The upper handle is turned downward to make the cut after the tool is in place. Two sizes take strapping from 3/4 to 1 1/4 and 1 to 2 inches respectively.

*All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—identify by IEN-9042 if you write the maker

# STOP that "GRIME Wave"!

**V.P.D. Transparent Plastic Holders Keep Work Records Clean, Protected!**

Smudged, greasy work orders and damaged records can be illegible, lost. V.P.D. TRANSPARENT PLASTIC HOLDERS always keep them clean, visible and protected under roughest handling. Made of quality heavy gauge acetate. Stock types and sizes to meet every need, also "specials" to requirement. Use V.P.D. Transparent Plastic Identification Labels, too.

SOLD BY STATIONERS EVERYWHERE

V.P.D. Visible. Protects. Identifies.

*Standard in Industry for 27 Years*

**JOSHUA MEIER CO., INC.**
153 West 23rd Street, New York 11, N. Y.

BREVITY—identify by IEN-9043 if you write the maker

# Use CERRO ALLOYS in PROOF CASTING

● Because of their exceptional qualities we recommend the following alloys for proof-casting of plastic and rubber molds, forging dies, etc.

CERROLOW 117—for measurements of light, thin-sectioned materials. Melts at 117° F. can be poured at a few degrees above this point.

CERROSAFE—most generally used in proof-casting. Pouring temperature, 190° F. slight shrinkage during first few minutes after solidification is gradually offset by growth taking place in alloy.

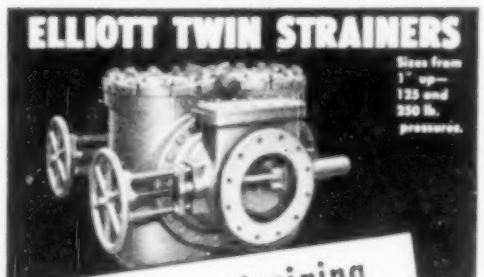
CERROBASE—melting temperature, 255° F. Generally used for larger cavities.

These Cerro Alloys give faithful reproduction of details, do not distort part being proved, simplify shrinkage calculations and do not deteriorate with repeated use. Send order today for alloy that meets your requirements.

**CERRO de PASCO Copper Corporation**
Dept. 6 • 40 Wall Street • New York 5, N. Y.

BREVITY—identify by IEN-9044 if you write the maker

# ELLIOTT TWIN STRAINERS



Sizes from 1" up—125 and 250 lb. pressures.

## Non-stop straining of any liquid

One cylinder works while the other is shut off for removing and cleaning the straining basket. Extra large screens require less frequent cleaning and also reduce friction loss. Cone construction with rubber ring inserted in valve disc insures positive tightness. Valve screw protected from flow. Quick-action valve permits indicator with which basket is in place. Quick-opening doors speed cleaning. Many other features. Write for the Twin Strainer Bulletin A-13N.

**ELLIOTT COMPANY**
Accessories Dept., JEANNETTE, PA.
DISTRICT OFFICES IN PRINCIPAL CITIES

BREVITY—identify by IEN-9045 if you write the maker

—the perfect **WIPE-ON** for Stampings, Engravings, etc.

# Lacquer-Stik

SO EASY TO USE

Just RUB IN . . . WIPE OFF . . . FINISHED!

Lacquer-Stik is a highly specialized paint, compounded and packaged solely for use as a wipe-on. It is semi-solid in stick form for quick, convenient use, but soon hardens and becomes permanent when exposed and contacts with the paint and can be subjected to temperatures as high as 500° F. Will not rub off or smear when applied after application.

You'll be delighted with the attractive colors of this time-saving, cost-saving, practical and permanent wipe-on.

At your Supply Dealer, send the coupon for sample, specifications, etc.

Our Research Laboratory will study your problem and make recommendations on any parts you supply.

**LAKE CHEMICAL CO.**
3060 W. Carroll Ave. Chicago 12, Ill.

DRAFT—Identify by IEN-9046 if you write the maker

## CUT ALL METALS *in Seconds* WITH STONE "SWING-CUT"

CUTS WET OR DRY

Metals of any size or shape up to 8" solids and 4" pipe cut with milled-like finish to tolerances of .008. Fast-acting, self-centering vise for single cutting to 45°, air-activated either hand or foot controlled. Vee-Block gives the cutting records and tubing can be supplied.

You'll want to know more about the many features of the "Swing-Cut" and how it can lower your costs. Write today and we will send you complete information by return mail.

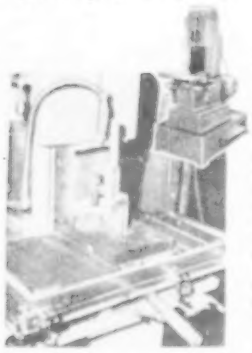
STONE MACHINERY CO., INC.
315 Fayette St. Moorlac, N. Y.

DRAFT—Identify by IEN-9047 if you write the maker

## PORTER-CABLE ABRASIVE BELT MACHINING

Does More Surfacing Jobs *Faster* and *Better*

Conveyorized units can give close to mirror finish on flat, moving surfaces on fabricating, debarking, smooth finish, flash weld, flows and other operations. Often saves up to 80% on up time and downtime rolling. Replaces grinding jobs 2 times faster.



AUTOMATIC FEED

Already Saved Over Four Times the Cost of the Original Machine

A manufacturer of stainless steel, aluminum and coated metal products uses an automatic machine with an independent control with a Porter-Cable 60-E Abrasive Belt Machine, to perform 18 finishes on flats in 1/2 hour as long as 1/2 hour per finish. 100 sec. finish. The first six years saved over four times the cost of the original unit from Orders were required.

CONTOUR GRINDING

Model C-12 Flat contour or flat-face grinding or polishing. Portable abrasive belt can also dispose contact with irregular shapes which is longer lasting. Wide range adjustments and for special work. Saves setup time and increasing of parts.

FINAL FINISH

Model WG-6. For portable type for small parts. For finished or for designed finishes. Gives final finish to jobs from the automotive, food and hardware, textile, milling, machine, and Grinds certain hard jobs.

PLATEN OR FREE BELT

Model B-6W. Quick adaptable to new jobs in complete units. Platen shaped clothing tight. The flexible platen can be to fit hard shapes of wood. Free belt section can be used in tight.

FREE CONSULTATION—Send samples today for recommendations how to cut costs with Abrasive Belt Machining (wet or dry). Or mail coupon for engineer to call.

PORTER-CABLE Machine Co.
249 N. Salina St., Syracuse, N. Y.
Please have a field engineer call on me regarding Abrasive Belt Machining.

Name
Company
Street
City State

DRAFT—Identify by IEN-9049 if you write the maker

## DOOR OPERATOR . . Chain assembly to open and close freight car doors

Source: NOLAN CO.
329 Pennsylvania St., Bowerston, Ohio

Improved design of the company's door operator includes a safety hook at the anchoring end and a pulling-closing type of pulling hook for the door handle. The second hook closes on the handle when it has been turned the door to its socket. The socket is part of a housing covering a pawl and ratchet operator that relies flow until the chain has been tightened.

It grips when the operator pulls at right angles with the rim of the chain to move the door. It releases again when the operator pulls on the chain end to take up the slack be has moved prior to the next door movement. Model H is the designation. List price is $20.00.

DRAFT—Identify by IEN-9050 if you write the maker

## LAPPING . . Lubricating oil for use in sharpening carbide tools

Source: STADOIL MFG. CO.
405-9 Gilman Road, El Monte, Calif

Half-pint cans to 50 gallon drums

New formula including a special adherent has been developed for the company's specialties for lapping and diamond wheels and tool is sharpening carbide tools. The oil prevents dry-lapped, H.S.S.D.H.D. prevents loading or glazing of the lap or wheel, is manufacture a cool cutting action and to prevent tool burning. The adherent holds the oil in place, manufacture claims. A few drops are all that are required at a time.

DRAFT—Identify by IEN-9051 if you write the maker

## VISE . . Universal design to position work on a machine table

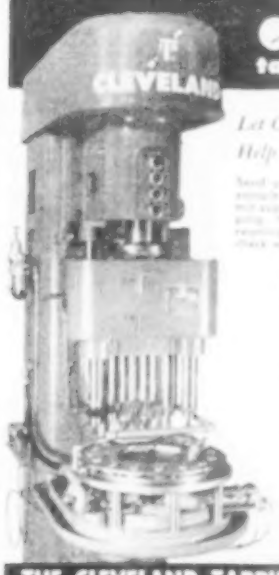
Source: DELTA POWER TOOL DIV.
614 E. Vienna Ave., Milwaukee 1, Wis.

Four adjustments at 90 deg. with each other are provided in this new Universal, each through 360 deg. of rotation. The jaws measure 6 in. in width. They open to 6½ inches. Overall height and width in the position shown are 5¾ and 7¼ inches. The base is equipped with numerous slots to fit in the table or a fixture for work in the greatest round method.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Investigate — Ratings — See Page 16

DRAFT—Identify by IEN-9052 if you write the maker

## CLEVELAND *lead screw* tapping machines




*Let Cleveland Engineers Help You Cut Tapping Costs*

Send us your points, specifications, or sample parts and let our engineers submit suggestions for tapping jobs of any kind, including machine, hand, hydraulic, reversing, automatic, or designed. Check with Cleveland first.

*Check These Features*

- Hardened and Polished Tapping Lead Screw. No Hold Downs Required, just slip insertion of part.
- Equipped Super Sensitive Clutch.
- Easily converted to various speeds.
- Fully Automatic or Semi-automatic Feed — Adjustable — Dependable Close Hole accuracy — one pitch or more.
- Automatic coolant and lubricant supply.
- Maximum safety for operator and machine.

*Write Today for "The Production Tapping Guide" and Catalog 283-F*

THE CLEVELAND TAPPING MACHINE CO.
*A Subsidiary of Automatic Steel Products, Inc.*
CANTON 6, OHIO

DRAFT—Identify by IEN-9053 if you write the maker

## STOP HYDROSTATIC PRESSURE LEAKS THROUGH CRACKS or HOLES IN UNDERGROUND WALLS with SEEP-SEAL

STOPS THE LEAK IN 2 MINUTES

Water seepage, pipes leakage, pressure leaks commonly found in underground concrete structures, are no longer a difficult problem to correction. A simple quick and more effective remedy is found in Seep-Seal. This amazing new formula, mixed with Portland cement, and applied in any crack or shaped form, or mixture, will set within 2 MINUTES to seal off ALL leakage. Ideal for manholes, elevator pits, power vaults, substations, transformers and similar structures. Also widely used in plaster construction for damp-proofing floors and walls.

Write for complete details and price lists. Formulation of concrete.

RICKTRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rick-Tred Corporation (Canada) Limited, Toronto 3

DRAFT—Identify by IEN-9054 if you write the maker

## DEPENDABLY UNIFORM . . . THAT'S WHY *Today it's Roebling!*

FOR OIL-TEMPERED SPRING WIRE

PRODUCTION RECORDS show that Roebling Oil-Tempered Spring Wire cuts down machine stoppages and maintains repeats for users everywhere. This is a quality wire . . . every inch identical in gauge and finish . . . uniform in all mechanical and metallurgical properties.

Roebling has one of the largest and most modern specialty wire mills in the country. From steel-making to finished wire, every manufacturing process is performed in Roebling's own plants. Special techniques and precision equipment assure a product that saves you preparation time . . . brings faster, smoother operation.

Have your Roebling Field Man help you choose the best wire—round, flat or shaped—for best efficiency and economy. John A. Roebling's Sons Company, Trenton 2, N. J.

ROEBLING

A CENTURY OF CONFIDENCE

DRAFT—Identify by IEN-9055 if you write the maker

## UNBRAKO

KNURLED SOCKET HEAD SHOULDER SCREWS

"HEAD AND SHOULDERS" ABOVE THEM ALL!

UNBRAKO Socket Head Shoulder Screws with Knurled Heads . . . are preferred by die makers everywhere . . . but are useful for many machine applications. Their knurled heads provide a slip-proof grip — even if fingers and heads are oily or greasy — thus materially speeding production.

UNBRAKO Shoulder Screws are available in a full range of standard sizes — other sizes to special order. Write for further details, today.

"See us at Booth 1424, Convention of National Metal Congress and Exposition, Chicago, Oct. 23 to 27."

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 36, PENNSYLVANIA

FREE!!!—Identify by IEN-9056 if you write the maker

# NEW! LOW PRICED PRECISION MADE MULTI-PURPOSE CAM PRESS

• The perfect bench tool for punching, creating, forming, doing, spotting, bending, drawing, staking, riveting, assembling.

This sturdy press provides accuracy not obtainable with ordinary arbor press. Ideal for small parts production runs.

Wide today for special ballots.

Bed ... 1½" x 4"
Die Space—Stroke up 4¼"
Length of Stroke ... ¾"
Capacity ... 1½" thk

PRICE ONLY
$42.00 F. O. B.
Marshalltown

MARSHALLTOWN MANUFACTURING CO.
MARSHALLTOWN, IOWA

FREE!!!—Identify by IEN-9057 if you write the maker

# 20% greater heating capacity!!

Faster heating and evaporation—at less cost with Langsenkamp Kook-More Kools. Eliminate steam waste, product contamination, and loss of essential B.T.U.'s.

FAMOUS KOOK-MORE KOILS

One standard set of Kook-More-Kools operating at 125 lbs. steam gauge pressure raises 10,000 gal. water from 60 degrees F. to 212 degrees F. per hour! Same set will evaporate 1500 gallons of water per hour under the same conditions.

Units constructed three complete rounds high, each round having separate condensate return. Fresh steam circulates rapidly through each of the three coils.

Coils can be removed in any desired order, will operate at pressure up to 150 p.s.i.

*Write today for full information to*

F. H. LANGSENKAMP COMPANY
227-235 East South Street, Indianapolis 25, Indiana

FREE!!!—Identify by IEN-9058 if you write the maker

# WATSON-STILLMAN

**PORTABLE PIPE BENDERS**

Bends all standard, extra heavy and double extra heavy steel pipe from ¾ in. to 2 in. inclusive, as well as standard weight pipe up to 3 in. diameter. Also handles solid mild steel bars up to 2 in. diameter.

*Write for Bulletin 4-C*

**WIRE ROPE SHEARS**

W-S wire cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

*Write for Bulletin 4-B*

**HAND PUMPS**

Single and double plunger types, with reservoirs of different capacities to use on the job, these hand pumps have a wide application for operating small hydraulic tools, jacks and other hydraulic equipment and for general hydraulic testing purposes.

*Write for Bulletin 7-G-1*

**HYDRAULIC JACKS**

Three bottle units, with either independent or integral pumps are useful for many jobs in construction and maintenance. Capacities from 10 to 500 tons.

*Write for Bulletin 7-G-4*

Distributors Products Division
WATSON-STILLMAN
Roselle, New Jersey

FREE!!!—Identify by IEN-9059 if you write the maker

# MOTOR . . Squirrel cage induction, includes brake-action winding in stator

Source: STANDARD DAYTON CORP.
P.O. Box 1001-A, Dayton 1, Ohio



**Dynamic braking** action with [illegible] or positive action and [illegible] for single-phase or polyphase [illegible] motors for single-phase or poly-phase [illegible]. The construction is standard squirrel-cage design with the addition of a single-phase brake winding in the stator slots.

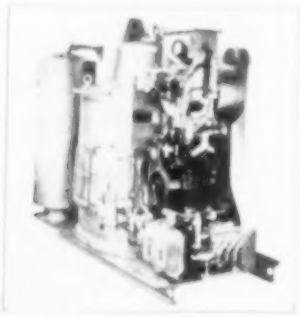
**The motor** is available in NEMA Frame sizes From No. 182 to 284. Ratings are From ½ to 1½ hp. single-phase, ½ to 20 hp. poly-phase. Operating speeds are 1,750, 1,800 or 3,600 rpm. Line power voltages From [illegible] depending on size, phase and speed. For standard duty, enclosures are drip-proof, totally [illegible].

**Smooth braking action** results immediately on closing the switch [illegible] and revolution is reduced to about [illegible] rpm. At this point the braking action ceases when there is no power [illegible]. The motor is used for applications where quick stopping is required, where [illegible] and where [illegible] for rotation after stopping is necessary. The compact, low profile drive shown protecting essential tube machine is supplied with [illegible] Dynamic.

FREE!!!—Identify by IEN-9060 if you write the maker

# BOILER . . Portable oil fired, 3,500 lb. per hr., pressure to 300 lb.

Source: VAPOR HEATING CORP.
78-82 E. Jackson Blvd., Chicago 4, Ill.



**Steam pressure** of [illegible] lb. is generated in this new boiler from a cold start in 2 minutes. Continuous operation is under automatic on-off control at the oil-fired burner. [illegible] products of combustion [illegible] over a 575 ft. steel coil. The boiler is designed to supply high pressure steam for equipment such as pile drivers, hammers, process units.

**Construction** includes an economizer coil in the path of the exhaust gases, a 5-hp. [illegible] gas engine to drive the water pump, blower, ignition and fuel pump. The motor mounting brackets provides for [illegible] for safety and the engine. The control operates on [illegible] pressure differential. Overall dimensions are [illegible]. The [illegible] Motor [illegible] Vapor [illegible] line.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FREE!!!—Identify by IEN-9061 if you write the maker

# WIRE CLOTH

tailored to your needs

CAL-WIC
INDUSTRIAL SCREENS

ON THE EAST—In Central Pennsylvania [illegible] • [illegible] Pennsylvania
ON THE WEST—For Southern Ohio, [illegible] • Dayton, Columbus
ON PACIFIC COAST—California [illegible] • Oakland & Carlstadt

FREE!!!—Identify by IEN-9062 if you write the maker

# AMAZING, NEW, WATERPROOF, GLASS-REINFORCED PAPER GLAS-KRAFT

PROVIDES POSITIVE ALL-WEATHER PROTECTION

GLAS-KRAFT is one of the [illegible] Glass-Reinforced Paper Sheets, [illegible] Paper Sheets. It is a [illegible] Kraft Paper [illegible] Glass Fibers [illegible] Glass Reinforced Paper [illegible] of Paper specifications.

GLAS-KRAFT IS VERSATILE

- Packaging & Packaging-Facilities, Machinery, Tires, Fibers, Glass, Wire, Steel, Cement, Chemicals, Foodstuffs.
- Protective Covers for Outdoor storage of [illegible] building materials and equipment [illegible] weather resistant.
- Packing & Shipping—Without loading of freight cars. [illegible] and strength for export and [illegible] shipping.
- Packing & Transportation of a water barrier or [illegible] protective floor covering for most [illegible].
- [illegible] concrete floors, driveways, [illegible] water and [illegible].

GET GLAS-KRAFT

Specify Glas-Kraft when you want an industrial paper to perform where others fail. Available in rolls up to 96 inches in width. Three grades. We also manufacture the [illegible] Glas-Kraft and Glas-Kraft Sealing Tape for the [illegible] industry. Write today for the [illegible] and prices.

A Letter Form Product by

GLAS-KRAFT, Inc.
LONSDALE, RHODE ISLAND

Write today for sample swatches and prices.

FREE!!!—Identify by IEN-9063 if you write the maker

# ORANGEVILLE HAND TRUCKS

## "Keep Loads Alive"

Illustrated are a few of the many hand trucks we make for factory and warehouse use. They are typical of a wide range of available types and sizes which we can furnish in two-wheel and four-wheel designs. We also build special trucks to order to meet unusual handling needs.

*Write for Catalog 50*

ORANGEVILLE

ORANGEVILLE MFG. CO.
ORANGEVILLE 15, PA.
*Established 1879*

FREE!!!—Identify by IEN-9064 if you write the maker

# SUPER SAW

*Saves you more actual time, right on the job, than any other tool in your kit!*

- NO STARTING HOLE NEEDED. [illegible]
- CUTS RIGHT THRU IMBEDDED NAILS. [illegible]
- FITS HEAVY DUTY ½" or ¾" DRILL. [illegible]
- BUILT FOR CONSTANT DUTY OPERATION. [illegible]

R.C.S. TOOL SALES CORPORATION
JOLIET, ILLINOIS, U. S. A.

▼ DIRECT—Circle to IEN-9065 if you write the maker ▼

**BECKETT AIR POWER DRILL PRESS FEED**

***Taps Extruded Holes in 16 Gauge Steel with Multiple Drill Head!***

NO LEAD SCREW!
NO TAPPING HEAD!
NO CLUTCHES!
NO CHECKING DEVICES!

JOB DATA FROM:
Mahr Industries, Inc.
Youngstown, Ohio

JOB:
Two two extruded holes in 16 gauge C.R. Steel refrigerator bracket with 10-32" tap.

EQUIPMENT:
Small drill press equipped with multiple drill head and BECKETT AIR POWERED DRILL PRESS FEED AND TAPPING CONTROL.

PRODUCTION:
[illegible] holes tapped per hour. Class 2 thread. No tap breakage!

Beckett Air Powered Tapping Feed uses only sufficient air pressure to move the tap to the work. Then as you bring up the tapping cycle is on your lead. After tap is through the work, motor instantly reverses and tap leads itself out, without stripping the cut thread. Tapping depth controlled to 0.001". Tap at the same speed used for drilling the diameter.

Many manufacturers are now using BECKETT AIR POWERED FEEDS on tapping jobs formerly done on expensive tapping machines—with far more and better production at great savings! Get full details today. Write for Bulletin No. [illegible]

BECKETT-HARCUM CO., 1144 Wayne Rd., Wilmington, Ohio

▼ DIRECT—Circle to IEN-9066 if you write the maker ▼

A NEWS ADVERTISEMENT BY FISHER SCIENTIFIC COMPANY

## TESTING . . Viscosity Readings Direct to 50,000 Centipoises

Source: FISHER SCIENTIFIC COMPANY
715-19 Forbes St., Pittsburgh 19, Pa.

Motor-driven cup holds a sample of liquid [illegible] Viscosity Direct to 50,000 Centipoises [illegible] Three holders [illegible]

Bulletin [illegible]

▼ DIRECT—Circle to IEN-9067 if you write the maker ▼

# CONVEYORS

*OVERHEAD TROLLEY SYSTEMS SPINDLE, BELT, SLAT, CROSSBAR & LIVE ROLLER TYPE.*

*FOR ANY AND ALL MATERIAL HANDLING PROBLEMS.*

AUTOMATIC HANDLING OF YOUR PRODUCTION MEANS INCREASED PROFIT.

SPRA-CON DESIGN, ENGINEERING FABRICATION & INSTALLATION OF CONVEYOR MACHINERY FOR YOUR SPECIFIC NEED IS AVAILABLE TO YOU—CONSULT US NOW.

THE SPRA-CON COMPANY
1402 N. WESTERN AVENUE
CHICAGO 22

▼ DIRECT—Circle to IEN-9068 if you write the maker ▼

## RHEOSTAT . . Adjusts by screwdriver, 16 ratings from 50 ohms to 5 megohms

Source: OHMITE MFG. CO.
4974 W. Flournoy St., Chicago 44, Ill.

Locking Shaft Type [illegible] Shaft [illegible] Screwdriver Adjusting Shaft [illegible] Diameter [illegible] Diameter [illegible] Shaft [illegible]

The molded resistance element is protected against contact with moisture and is not affected by changes in ambient temperature. Terminals are embedded in the resistance. All of the parts are continuous parallel. A single-piece single-flange mounting has been supplied to mount on the back of the housing. Special shaft units can be supplied [illegible]

▼ DIRECT—Circle to IEN-9069 if you write the maker ▼

## VALVE . . Rising sleeve design for controlled sludge drawoff from tank

Source: AMERICAN WELL WORKS
98-102 N. Broadway, Aurora, Ill.

Handwheel on stand is turned to raise or lower the sleeve

Brass sleeve is attached by [illegible] Sludge [illegible] Tank [illegible]

▼ DIRECT—Circle to IEN-9070 if you write the maker ▼

## LUBRICATING . . Pneumatic pump for semi-fluid lubricants in drums

Source: LINCOLN ENGINEERING CO.
5732 Natural Bridge Ave., St. Louis 20, Mo.

No. 1261 [illegible]

50 Makers of These And 50 Other Products Are Listed in THOMAS' REGISTER "Descriptions" "Ratings" See Page 50

▼ DIRECT—Circle to IEN-9071 if you write the maker ▼

**BALDWIN** Concentric-Pointer STRAIN INDICATOR FOR SR-4 STRAIN GAGES

EASY READING
SELF BALANCING

[illegible]

TESTING HEADQUARTERS **BALDWIN**

▼ DIRECT—Circle to IEN-9072 if you write the maker ▼

1. TO PREVENT loss of weight, pliability and quality of hygroscopic materials such as leather, paper, textiles, tobacco and foodstuffs.
2. TO PREVENT fires and explosions caused by static electricity.
3. TO ELIMINATE unhealthy dry working conditions.

THESE are cold-weather dry air problems that cost industry millions of dollars annually. In many plants they can be eliminated with automatic, economical Armstrong Steam Humidifiers. The small 6-2 unit illustrated humidifies up to 40,000 cu. ft.* lots for $120.00 complete, ready for installation. Ask for new 12-PAGE BULLETIN describing operation and installation. ARMSTRONG MACHINE WORKS, 888 Maple Street, Three Rivers, Michigan.

*Assuming 70° F. temp., two air changes per hour.

**ARMSTRONG *Steam* HUMIDIFIERS**

▼ DIRECT—Circle to IEN-9073 if you write the maker ▼

**If You're Working in WOOD, METAL or PLASTICS**

There's a SUNDSTRAND Portable Pneumatic Sander To Suit The Job

Single Pad

Double Pad

Heavy Duty Model

FREE DATA

SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC MACHINE DIVISION
ROCKFORD, ILLINOIS, U.S.A.

▼ DIRECT—Circle to IEN-9074 if you write the maker ▼

**PLATECOIL**
*Replaces Pipe Coil*
FOR HEATING, COOLING OR DRYING

PROVIDES 4 OUTSTANDING SAVINGS

1. More Prime Surface for More Efficient Heating
2. Develops Quick Heat for Quick Starts (As Much as 50% Faster Than Pipe Coil.)
3. Takes Half the Space. Weighs Half as Much as Pipe Coil
4. Platecoils Are Easily Cleaned or Replaced in Minutes. No Downtime. No Tank Dumping.

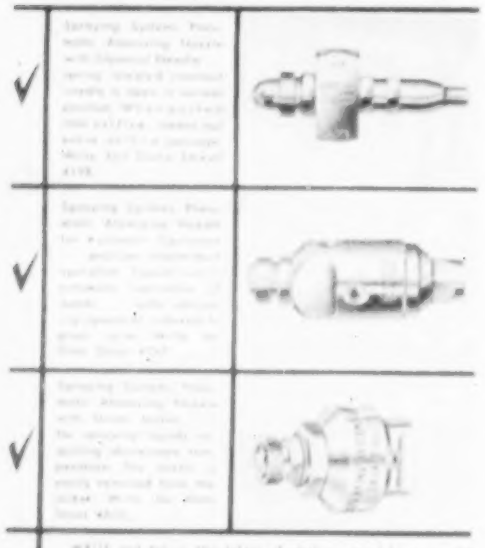
Take advantage of the complete engineering assistance offered by Platecoil to help you solve your heat transfer problems.

Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL
Division
GOLD-ROLD MFG. CO.
LANSING 5, MICHIGAN

FREEFITT—Identify by IEN-9075 if you write the maker

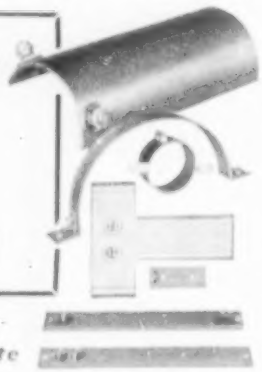
are you "up-to-date" on SPRAY NOZZLE developments . . . for example



SPRAYING SYSTEMS CO. 3208 Randolph Street Bellwood, Illinois (Suburb of Chicago)

FREEFITT—Identify by IEN-9076 if you write the maker

Made-to-fit ELECTRIC STRIP HEATERS by WATLOW



Adaptable Shapes Prevent Heat Waste

Write for Electric Heating Catalog

For simple warming — or sustained high heat — Watlow strip units prove most efficient because they are tailored to your jobs — in a wide variety of curved, flat and irregular shapes and sizes — and with voltage or wattage to fit your specifications.

Send blueprint or pencil sketch of your jobs plus outline of heating requirements. We'll be happy to send you a prompt suggestion and quotation.

SPECIALISTS IN ELECTRIC HEATING UNITS

WATLOW ELECTRIC MANUFACTURING COMPANY 1310 N. 23rd St. St. Louis 6, Mo.

FREEFITT—Identify by IEN-9077 if you write the maker

No More Guessing . . . Accurate Torque Control

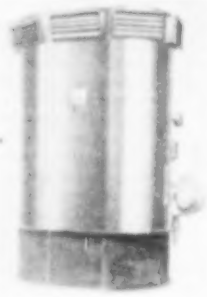
No More Guessing

P.A. STURTEVANT CO. ADDISON (QUALITY) ILLINOIS

FREEFITT—Identify by IEN-9078 if you write the maker

HEATING . . Direct fired space units, gas or oil, rate 1,500 to 10,000 cfm.

Source: PRAT-DANIEL CORP. 82-86 S. Water St., East Port Chester, Conn.



These new units have been used in the company's direct-fired line of space heaters previously described IEN-7250-45. Two model sizes, known as [illegible] are available for [illegible] and rate for [illegible] per hr. to [illegible] cfm. An output of 1,500 [illegible] cfm. One large [illegible] for use where [illegible] installations [illegible] either [illegible] and rates [illegible] per hour. Its output is approx. to 10,000 cfm.

The design requires a motor [illegible] to draw air in [illegible] around the [illegible] and then through a [illegible] for delivery at [illegible] speed in relation [illegible] The heated air flows from the side and [illegible] through the heat exchanger tubes [illegible] a vent at the top.

Smallest unit measures 24 in. x 24 in. x 30 in. or by 84 in. in [illegible] It has two 18 in. square vents equipped with [illegible] measuring about 20 in. x 20 in. The [illegible] weighs 40 pounds. The largest [illegible] measures 29 in. x 44 in. by [illegible] in. It delivers through [illegible] measuring 20 in. x 20 in. The [illegible] weighs approx. 1,250 lbs. Minor dimensional [illegible] in specified [illegible]

FREEFITT—Identify by IEN-9079 if you write the maker

PLASTIC MOLDING . . Cast cavities made of beryllium copper on user's hobs

Source: GENERAL MOLD CASTING CORP. 1819 Broadway, Suite 1922, New York 23, N. Y.

16 page catalog upon request

New process has been developed by the company through which it is prepared to supply cavities for use in plastic molding, die-casting, working in master hobs made of steel and furnished by the user. The process has been in operation for some time principally in the East. It has been present there in molds for plastics, rubber, ceramics.

**The cavity** is made by setting up the hob in a frame to face up for pouring molten beryllium copper around it until it is covered and by then subjecting the molten material to hydraulic pressure until it has cooled and solidified. The mold, or chase, in which the work is done is made in correct shape for subsequent assembly of cores or a number of the cavities in the final molding. One hob can be used in making as many as a hundred cavities before it requires refinishing.

**Characteristics** include ability to cast cavities involving deep draws and thin cored sections, easy variation in the copper material to wound up in molding service, conductivity to take heat away or to come up to temperature quickly as required. The copper takes an excellent surface finish. It can be plated if required. The cavities are supplied in the "as cast", annealed, or hardened condition. Delivery is usual in within a week after receipt of the master hobs.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

FREEFITT—Identify by IEN-9080 if you write the maker

ERASE faster, easier electrically!

Bruning's exclusive 7" eraser . . . won't "fly out"

No other machine or method erases as quickly, easily and cleanly as the Bruning Electric Erasing Machine.

The 7" eraser — exclusively Bruning's — prevents those erasers "fly outs" which let ink and erase lines damage your drawings so often.

Your Bruning machine is "[illegible]-installed", runs continuously for an indefinite period — from [illegible] to come. It is quiet and can hold it comfortably [illegible] a period, permitting full use of your work for extended [illegible] periods. You operate it with convenient [illegible] control.

FREE FOLDER [illegible]

BRUNING ERASERS

FREEFITT—Identify by IEN-9081 if you write the maker

LET ROBINSON DESIGN YOUR FORCED DRAFT FAN!

ROBINSON

FORCED DRAFT FAN

ROBINSON VENTILATING COMPANY ZELIENOPLE, PENNA.

Designed to meet your specifications as to volume and pressure. High efficiency — means money in power cost during long service.

Let us select and design a Robinson unit for you. For supply conditions see to Boilers — Open Hearth Furnaces — Reheat Furnaces — Heat Treating Furnaces — etc.

WRITE TODAY FOR BULLETIN No. 2101.

MAKERS OF FANS AND VENTILATING EQUIPMENT FOR FIFTY YEARS

FREEFITT—Identify by IEN-9082 if you write the maker

PRENTISS

"Bull Dog"

MACHINISTS' VISES

Backed by 80 years of time proven acceptance by industry

•

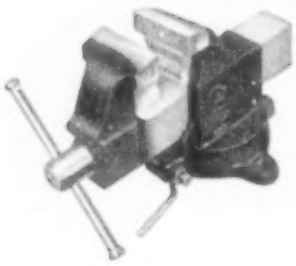
Hundreds of plants have used them and still do.

•

Insist on PRENTISS for that "EXTRA" vise service

•

Your industrial distributor can furnish



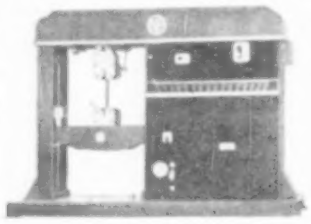
Buy PRENTISS Today

PRENTISS VISE DIVISION OF THE CHARLES PARKER CO. MERIDEN, CONN.

FREEFITT—Identify by IEN-9083 if you write the maker

YOU SAVE TIME AND MONEY TESTING IN YOUR OWN SHOP

(TENSILE — COMPRESSION — FLEXURE — SHEAR — TRANSVERSE)



NATIONAL FORGE Table UNIVERSAL TESTER

10,000-lb. capacity

15,000-lb. capacity

Length 34 — Height 42 — Depth 18 — Weight Net 750 lbs.

The new Table Universal Tester is compact, rugged, easy to use and maintain. Operation is simple, no special training required. Fast and accurate to A.S.T.M. standards — ideal for production line testing or inspection programs.

These load ranges: 0-10,000 lbs. and 0-15,000 lbs. — or in [illegible] 0-10,000 — 0-15,000 — 0-20,000 lbs.

Lever and calibrated for weighing series tests in [illegible] accuracy. All load [illegible] are [illegible] calibrated and [illegible] Stroke is 14 inches, work [illegible] 2-inch [illegible] 20 inches.

For Full Information Write

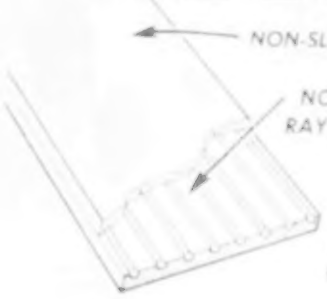
TESTING MACHINE DIVISION

NATIONAL FORGE AND ORDNANCE COMPANY

Dept. E.N. Irvine, Warren County, Penna.

IEN-9084

New **Cordon** leather belting does not stretch!



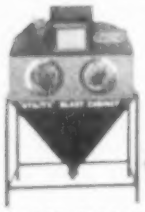

- Maintains Constant Tension Less Slippage and Longer Life
- Backed by our Liberal Guarantee

**S. R. SIKES COMPANY**
Established 1881
1026-30 S. Third St., Minneapolis 15, Minn.

IEN-9085

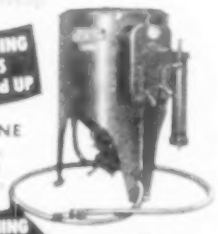
# Which of these Machines will Save You Money?

These factory-assembled units of Pangborn Blast Cleaning and Dust Control machines are especially designed to earn extra profits where special equipment is not required.



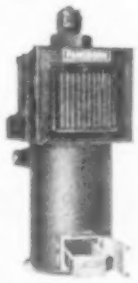
**BLAST CLEANING CABINET**
clean motor parts, remove rust, scale, grease, dirt, paint, etc., in a few seconds. Ideal unit for producing clean, smooth surfaces on castings up to 60" x 36".

**BLAST CLEANING CABINETS $290. and UP**



**BLAST CLEANING MACHINE**
for maintenance and many other uses including the removal of rust, dirt and scale. Economically cleans large objects such as tanks, bridges, structural work, pressure vessels, to paint, painting, etc. 5 years stationary or portable.

**BLAST CLEANING MACHINES $155. and UP**



**UNIT DUST COLLECTOR**
traps dust at its source, minimizes machine breakdowns, reduces your maintenance costs. Solves many grinding and polishing nuisances and material losses.

**UNIT DUST COLLECTORS $260. and UP**

**HYDRO-FINISH CABINET**
uses liquid blast, removing dust, and leaves nearly hand polishing, drawing and finishing of molds, dies, tools, etc. Removes scale, discoloration and, depending upon preparation, performs for brazing, Heats up to 300°.

**HYDRO-FINISH CABINETS $1295. and UP**

*Look to Pangborn for the Latest Developments in Dust Control and Blast Cleaning Equipment*

**MAIL COUPON TODAY!**

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me further information on—
BLAST CLEANING CABINETS — UNIT DUST COLLECTORS
BLAST CLEANING MACHINES — HYDRO-FINISH CABINETS
I am interested in the possibility of using one of these machines for

NAME
COMPANY
ADDRESS
CITY STATE

**Pangborn**

IEN-9087

**CONVEYING . . Standardized unit mounts belt on slide table or rollers**

Source: MAR-RAIL CONVEYOR CO.
558-62 York Ave., Pawtucket, R. I.

IEN-9088

**DRIVE . . Three speed transmission applies in New Departure coaster hub**

Source: NEW DEPARTURE DIVISION
267-71 N. Main St., Bristol, Conn.

**Three ratios** between a 22-per-cent reduction and a 28-per-cent step-up can be selected at a time on the handlebar of a bicycle equipped with the company's new three-speed transmission. It is known as the compact version of the standard New Departure coaster brake and other amenities of the trade equally from the bicycle.

**Desired ratio** is provided [illegible]

*All Makes of Trucks and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 16*

IEN-9089

**"ROCKWELL" *Superficial* HARDNESS TESTER**

*. . . with many uses, but only one standard of precision*

• For rough, supervision or control—on lathes, grinders, machines or production line—form made by the "ROCKWELL" Superficial are as representative of hardness as those made on the regular "ROCKWELL" Hardness Tester. Only requirement is that, since depth of penetration is only .005" or less, surfaces must be smooth and materials homogeneous for greatest accuracy.

This instrument is especially suitable for testing very thin material, notched or lightly carburized steel and areas too small for regular "ROCKWELL" Hardness Tests. A Wilson Field Service Engineer will be glad to discuss with you whether or not a "ROCKWELL" Superficial Hardness Tester will best serve your needs.

**WILSON** ACCO
**MECHANICAL INSTRUMENT CO., INC.**
AN ASSOCIATE COMPANY OF AMERICAN CHAIN & CABLE COMPANY, INC.
230-5 PARK AVENUE, NEW YORK 17, N. Y.

IEN-9090

EVICTION NOTICE!

**SAVE** TIME • MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . .

Made in 3 models with attachments for every cleaning job.

**PORTABLE COMBINATION BLOWER-SUCTION CLEANER**

CLEMENTS CADILLAC

CLEMENTS MFG. CO.
7650 S. WESTERN AVE., CHICAGO 20, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

IEN-9091

Aerovent Fan EXTENDED SHAFT FAN
KEEPS MOTOR OUT OF AIR STREAM

Extended shaft may be seen in back, at the rear. Sizes 12" to 36". 2, 4, or 6 Blades.

For industrial applications where it is desired to keep the motor out of the air stream to meet Underwriter's specifications for exhausting explosive vapors. It protects the motor from high temperature air, corrosive fumes, or combination of obnoxious fumes and moisture.

Certified Ratings — PFMA

Other Models
Direct Connected, Man Cooling, Duct Type, Belt Driven, Pulley Driven. Sizes 12" to 144"

Write today for
ENGINEERING BULLETIN

**AEROVENT FAN CO., INC.**
4TH AND BROWN STREETS, PIQUA, OHIO
Competent Sales Engineers in Principal Cities

IEN-9092

THE FLORLINE MARKING MACHINE
Makes Safety & Parking Lines At Walking Speed!

Often pays for itself on the first job! 1 man alone can do the floor marking in 1 day that previously took an entire crew.

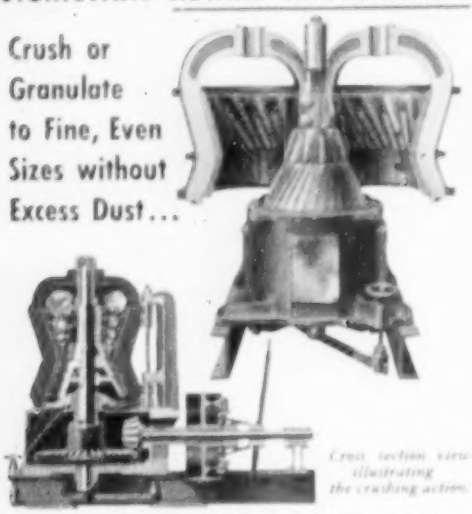
$89.50
F.O.B. Detroit

**H. C. SWEET CO.**
12053 Woodbine Ave. Detroit 28, Michigan

BREITT—Identify by IEN-9093 if you write the maker

## STURTEVANT ROTARY FINE CRUSHERS

**Crush or Granulate to Fine, Even Sizes without Excess Dust...**



*Cross section view illustrating the crushing action.*

These rugged crushers speed output of foes, cut reduction costs. Desired fineness is quickly obtained by regulating hand wheel. "Open-door" accessibility permits fast, easy cleaning. They crush foe . . . crush fast and do not clog. Available in output capacities from 1 to 50 tons-per-hour. Write for catalog.

**STURTEVANT MILL COMPANY**
113 CLAYTON STREET, BOSTON 24, MASS.

---

BREITT—Identify by IEN-9094 if you write the maker

## CHANGE DRUM TUMBLER

*Mixes in Suppliers' Drums*

**AVOIDS:**

- The fire hazard of open drums
- Contamination of one product with another
- Cleaning of equipment between mixes
- Residual sludge

**ASSURES:**

- Uniform mix
- Easy inspection during operation
- Withdrawals in any quantity needed

**ALSO:**

- Portable ramps for fast insertion and removal of containers

**The VOL-U-METER Company**
Buffalo 16, N. Y.

---

BREITT—Identify by IEN-9095 if you write the maker

## RIVNUTS fasten plastic sheets to tubular post ...make windows weather-tight!

In provide a neat, tight seal for aluminum windows, designers mounted a rivnut on pipe fastener, a blind rivet and one plate contained. Once found so simple concerning anchors, in a space head. B. F. Goodrich Rivnut.

The Rivnut is used connecting plate "A" to tubular corner post "B". The Rivnut head serves as a spacer for transparent plastic sheet "C".

**NOW! FREE DEMONSTRATOR!**

Shows with mouse how Rivnuts work. Explains installation and applications. Write us.

**B.F.Goodrich** DEPT. IE-90, AKRON, OHIO

---

BREITT—Identify by IEN-9096 if you write the maker

## TRUCK . . Two wheel hand design is made of steel in welded assembly

Source: STANDARD PRESSED STEEL CO.
P.O. Box 555, Jenkintown, Pa.

**Lui-Truk** is a new Halowell hand truck featuring light weight combined with rugged construction providing strength for all but the heaviest hand trucking work. Two-design differential tires on the wheels weigh 18½ and 20½ lb. and will handle 350 and 500 lb. loads. List price is $8.75 and $11.75.

**Lightest** of the two is equipped with rubber wheels having plain metal bearings. The heavier one is equipped with 6 in. rubber-tired wheels rolling on ball bearings. Truck illustrated is both cases are 47 in. in height, 19½ in. in base width, 40½ in. in base length.

---

BREITT—Identify by IEN-9097 if you write the maker

## HANDLING . . Plastic tote box shaped for nesting, criss-cross stacking

Source: UNITED STATES RUBBER CO.
1230-32 Sixth Ave., New York 20, N. Y.

**Box colors can identify product**

**Ion-alite** (a trademark) is the material of the tote box. Its smooth surface and stacking lips leave a pleasing appearance. The material is unaffected by acids, 11 of hydrocarbons and tests for water absorption at one-half per cent. It stacks in cross-cross arrangement so the contents of each box can be seen.

**Eleven sizes** range from 18½ in. in length, 12 to 16 in. in width, 8 to 14 in. in depth, and measured inside. Standard color is tan of grey. Other colors available by order as quoted. Colors of as many include black, cream, green, blue, red, maroon, orange. These colors may vary with the product.

---

BREITT—Identify by IEN-9098 if you write the maker

## TESTING . . Bridge type instrument to check three-cell storage batteries

Source: McCOLPIN-CHRISTIE CORP.
4922 S. Figueroa St., Los Angeles 37, Calif.

**Battery Scope** is a unit designed to determine those individual cells in a storage battery which, when in a bridge circuit employing a magnetic amplifier. The degree of amplification is shown on the instrument panel, as determine sending specific or inferior, and on the second meter reading "charge" or "discharge". Assembly is in a wrap-around housing with the panel mounted in opposite. The unit can power provide force the required conditions and are connected in parallel handling.

See Makers of These And All Other Products In Your THOMAS' REGISTER — Descriptions — Ratings — See Page 19

---

BREITT—Identify by IEN-9099 if you write the maker

## The "One Best Way" for Many Materials-Handling Jobs

**MORRIS**
*Centrifugal* SLURRY PUMPS

Lower Cost Per Ton or Million Gallons

MORRIS MACHINE WORKS
Baldwinsville, N. Y.

**MORRIS CENTRIFUGAL PUMPS**

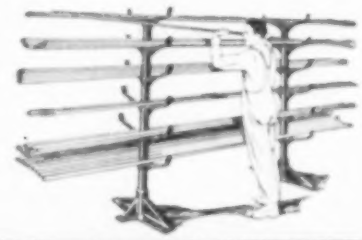
---

BREITT—Identify by IEN-9100 if you write the maker

## SPEEDS UP STOCK-ROOM SERVICE

The BROWN TIME-SAVING RACK saves the time previously lost end-hauling each bar of stock its entire length from the side-style, closed-side Rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. Workmen waiting for stock are served without waste of time, and returned to their production machines to turn out a maximum of output. Any time you require additional storage space, all you need do is to add more units. If you want to relocate it at any time, you can do so for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn, warp, sag or twist; depreciation is practically nil. SEND FOR BULLETIN No. 26-E DESCRIBING

BROWN'S *QUICK-SERVE* RACKS



**BROWN ENGINEERING CO.**
122 NORTH THIRD STREET — READING, PENNA.

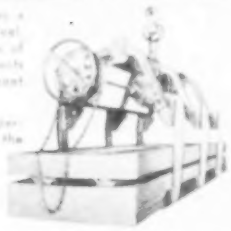
---

BREITT—Identify by IEN-9101 if you write the maker

## Wide *or* Narrow...

**1 C-F LIFTER HANDLES THEM ALL**

Whether your production requires a few or many widths of sheet steel, 1 C-F Lifter, with its wide range of low and carrying angle adjustments will probably meet all your sheet handling requirements.



Adjustments are made by the operator in a few seconds, permitting the Lifter to shift from wide to narrow sizes almost instantly.

Because it can grab up, carry and unload more loads per hour, using less man and crane time than any other methods, a C-F Lifter will soon pay for itself.

Bulletin No. 25 gives you the complete story of C-F Lifter advantages to you. Ask for it today. There is no obligation.

**CULLEN-FRIESTEDT CO.**
1310 South Kilbourn Avenue • Chicago 23, Illinois

---

BREITT—Identify by IEN-9102 if you write the maker

**GEARS AND SPEED REDUCERS**

THE OHIO GEAR COMPANY
1338 E. 27th ST. • CLEVELAND 14, O.

**OHIO GEARS**

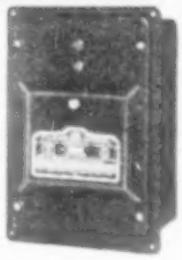
IEN-9103

Instrumentality

**DON'T PLAY WITH FIRE...**

*specify*

**FLAME-OTROL**



Write for Bulletin F2-2. Wheelco Instruments Company, 445 W. Harrison Street, Chicago, Illinois

**wheelco** *electronic controls*

IEN-9104

Decidedly Better Small Gearing for

**Handyhot**

CHICAGO ELECTRIC's Deluxe JUICIT, approved by Sunbeam, brings you with new concepts of smooth, quiet *dependable* performance to foot juice extractors. Electrically driven with power recommended by G.E. Fractional Horsepower Gears, the JUICIT reams, shreds, shakes down more juice with less effort through a magic mulling motion.

Learn why CHICAGO ELECTRIC and many others of our country's biggest names depend upon US for Small Gearing uniformly made to the most exacting specifications. IF YOUR requirements call for *production* runs of Fractional Horsepower Gearing, let all motor drivers then with our skilled engineers.

You, too, can make use of our highly developed facilities to your profit and advantage. Will you tell us what your needs? Suggestions, ideas and your comments incur no obligation. Please write or phone us today.

*Free!*

**GEAR Specialties, Inc.**

Spurs · Spirals · Helicals · Bevels · Internals · Worm Gearing · Racks · Thread Grinding

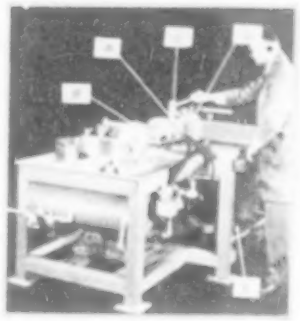
2635 WEST MEDILL AVE., CHICAGO 47, ILL.

WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF FRACTIONAL HORSEPOWER GEARING

IEN-9106

**BENDING . . Rotary fixture machine for contours, true radii to 42 inches**

Source: PINES ENGINEERING CO. 638 Walnut St., Aurora, Ill.



IEN-9107

**MARKING . . Assembled die and block to make nameplates in a power press**

Source: M. E. CUNNINGHAM CO. 99 E. Carson St., Pittsburgh 19, PA.

Model PSF-20

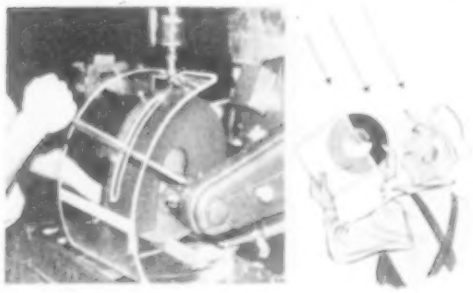
All Makers of These and All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 10

IEN-9108

**GREATER CUTTING EFFICIENCY**

*Moisture-Free*

**CHICAGO CUT-OFF WHEELS**



**IN NEW SEALED PACKAGES**

Write today for free descriptive booklet

CHICAGO WHEEL & MFG. CO.

IEN-9109

Because they're years ahead in steam generation

**only CYCLOTHERM** *STEAM GENERATORS*

**HAVE the REAL ANSWER TO Low GAS and OIL CONSUMPTION**

**WHAT IS IT?** It's the modern scientific discovery of transferring heat at the highest degree of efficiency with a new low in fuel consumption. Principal factors of which are the combustion wind flame with its extreme circulation power, designed to utilize the full potential of every particle of fuel ..... and the thin layer of air resulting from centrifugal force that's always between the flame and wall of combustion chamber. A combination to produce shaper fuel to excess of conventional standards for measured heating surfaces.

**SEND FOR ALL THE BIG REASONS**

Learn how this completely automatic Cyclotherm with its "unscrewed" oil-gas package, free features major fuel waste and excess costs. If you are planning a new or replacement boiler installation it will pay you to find out the facts on Cyclotherm.

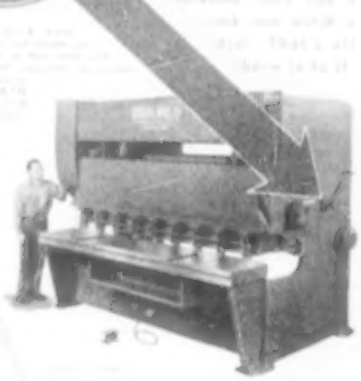
SIZES available to fit your steam or water load for process, dry or heating. Low pressure to 150 psi. Fired with light or heavy oil, gas or combinations.

*Most Reliable With No Bellows*

**CYCLOTHERM CORPORATION**

IEN-9110

**THE *Right* KNIFE CLEARANCE FOR EVERY PLATE THICKNESS**



THE CLEVELAND CRANE & ENGINEERING CO.

**STEELWELD SHEARS**

IEN-9111

**The Answer is often:**

**USE**

**SHAF-TITE* ROLLS**

Many Patented Constructions

*Choice of*

**METAL, RUBBER, or WOOD ROLLS**

Send For NEW ROLL CATALOG No. 48

RODNEY HUNT MACHINE CO.

473 Main Street — RODNEY HUNT — Orange, Mass., U.S.A.

SPECIFY—Identify by IEN-9112 if you write the maker

GENERAL ELECTRIC

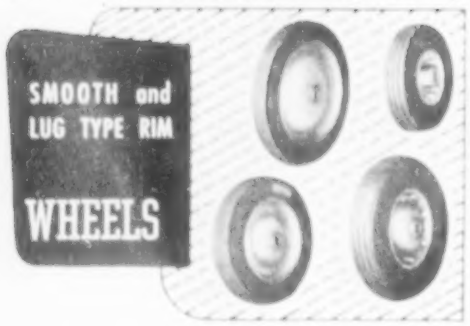
SPECIFY—Identify by IEN-9113 if you write the maker

- LOW FIRST COST
- WORKING ZONE WARMTH
- NO FUEL WORRIES
- LOW OPERATING COST
- AUTOMATICALLY CONTROLLED
- EASY INSTALLATION
- LONG LIFE—LOW MAINTENANCE
- ULTD—APPROVED
- AVAILABLE—Immediate delivery

FOR FULL INFORMATION DROP A CARD OR A LETTER FOR BULLETIN BH-523-2

**DRAVO** CORPORATION
DRAVO BUILDING, PITTSBURGH 22, PA.

SPECIFY—Identify by IEN-9114 if you write the maker




FOR BETTER SALES OF WHEELED PRODUCTS

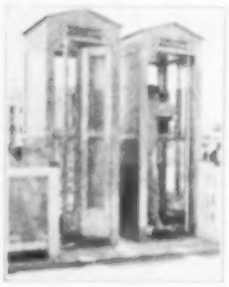
GLEASON CORPORATION 121 N. 7TH ST. MILWAUKEE 3, WIS.

GLEASON WHEELS FOR Price Competitive PRODUCTS

SPECIFY—Identify by IEN-9115 if you write the maker

## COMMUNICATING . . Telephone booth houses telephone in outdoor locations

Source: SHERRON METALLIC CORP.
Flushing & Stewart Aves., Brooklyn 6, N. Y.



Stainless steel and wire-reinforced glass are the principal materials of construction in this new outdoor telephone booth. Assembly includes air circulation for privacy and ventilation, lighting and [illegible]. Doors that operate on rollers in the steel frame are of stainless steel making the [illegible] weather proof. [illegible] needed to house a telephone in corrosive atmospheres in a plant as well as outdoors.

**Designation** of Model 208 Type 3. Dimensions are 30 by 30 by [illegible]. [illegible] stainless steel panels can be substituted for the wire glass by [illegible]. The [illegible] switch contains the [illegible] and the [illegible] or contractor.

SPECIFY—Identify by IEN-9116 if you write the maker

## CONDUCTOR . . Electric wire and cable can be soldered through the insulation

Source: DIELECTRIC MATERIALS CO.
5313-19 N. Ravenswood Ave., Chicago 40, Ill.

**Insulation melts away**

Hi-Temp is a new electrical wire and cable with a non-[illegible] insulation that has a melting point approximately that of solder. It does not carbonize, shrink or melt away when a solder connection is made with a chisel-shaped iron. Thus it maintains insulation protection to a solder joint and does not interfere with the completion of the connection. Wire stripping is eliminated along with a certain amount of cutting.

**Sizes** are to No. 12 AWG with [illegible] to .005 and .006 in. to IMA colors having [illegible] breakdown values of about [illegible] and [illegible] volts/mil.

SPECIFY—Identify by IEN-9117 if you write the maker

## MIXING . . Portable impeller unit, motor driven design, 1/4 to 3/4 hp.

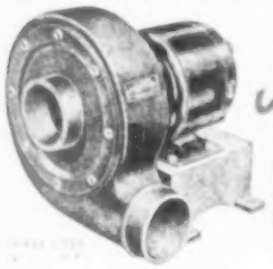
Source: PATTERSON FOUNDRY & MACHINE CO.
50 St. George St., East Liverpool, Ohio

**Type T-50** designates new direct-drive design in the company's "Typhoon" line of portable power mixers. The line also includes belt and geared designs in 1/4, 1/2 and 3/4 hp. ratings. The direct and geared assemblies are provided with universally adjustable mounting clamp for operation at any angle with horizontal and vertical. The motor can be open or totally enclosed design. Mounting is on ball bearings. The shaft and impellers are made of stainless steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

SPECIFY—Identify by IEN-9118 if you write the maker

READY TO RUN—IMMEDIATE DELIVERY!



Sutton MOTOR DRIVEN PRESSURE BLOWERS

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY

CENTRIFUGAL TYPE designed to deliver an even, non-pulsating flow of air for blowing or exhausting. Universal as to rotation and discharge. Direction of discharge may be changed in any of eight 45 degree positions. • Housing, frame, support and impeller are constructed of cast aluminum alloy to reduce weight and increase strength. Straight wall construction reduces windage and increases efficiency. • Provided in standard 3-phase, 60-cycle, direct-connected 60-cycle for belting motor in various sizes. • [illegible] H.P. with capacities [illegible] cu. ft. per min. at static pressures [illegible].

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Co.
12 W. WILSON AVENUE NORFOLK, VIRGINIA

SPECIFY—Identify by IEN-9119 if you write the maker

STEEL FOUNDRY Cuts ABRASIVE COSTS WITH SHOT GRIT

A [illegible] saving in abrasive costs is the reports made by a prominent midwest steel foundry which uses shot one year, grit in other comparatively performed steel foundry abrasive and concentrated [illegible] shot abrasive. Typical results showed these savings:

- Up to 80% weight abrasive use
- Up to 90% weight [illegible] use
- 50% to 70% [illegible] in total abrasive and maintenance costs
- Fewer cleaning [illegible]

Free complete and complete information on Z abrasives for your own work.

Produced Exclusively by
NATIONAL METAL ABRASIVES COMPANY
[illegible]
WESTERN METAL ABRASIVES COMPANY
[illegible]
For full particulars call or write

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CHICAGO • DETROIT • CINCINNATI • ST. LOUIS • NEW YORK
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SPECIFY—Identify by IEN-9120 if you write the maker

SPECIFY GRC WING NUTS

1. TO DO A GOOD JOB
2. LOOK BETTER
3. COST LESS!

GRC offers quick service. The cost is strong, good looking wing nuts of superior zinc alloy. All are special finishes, all popular thread sizes. Wing nuts will match threads in carriage wing nuts, also available. Economic method for quantity cut 3-screw.

Write today for samples and prices

GRIES REPRODUCER CORP.
797 EAST 132 ST., NEW YORK 54 MOH Haven 9-7474

SPECIFY—Identify by IEN-9121 if you write the maker

AMAZING NEW FLOORING

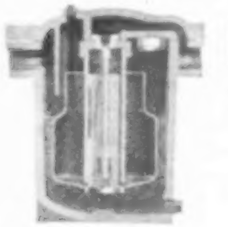
SOLVES ALL FLOOR PROBLEMS

ROC-WOOD — DURABLE AS ROCK — RESILIENT AS WOOD!

[illegible]

ROC-WOOD FLOORING

IEN-9122



# ILLINOIS STEAM TRAP

Simple — has only two moving parts

**Valve Stem Travels Independent of Bucket**—no other trap has this feature.

**Instantaneous Valve Action**—either wide open or tight shut; will not dribble on partial closing of valve under low condensation rates.

**Wire Drawing Impossible**—valve has snap action.

**Simple**—moving parts are valve and bucket.

**Cannot Air Bind**—vents air continuously without loss of steam.

**Cannot Blow Steam**—always water sealed.

**Surface Discharge**—flushes out all grease and sludge.

**Valve Seat**—of special alloy, fully guaranteed.

**Inspection Easy**—Without disturbing piping.

**Works Equally Well on All Fluids**—compressed air lines, air separators, air aftercoolers.

Write for Bulletin 33

**ILLINOIS ENGINEERING COMPANY**
INCORPORATED 1900
RACINE AVENUE AT 21ST STREET • CHICAGO 8

IEN-9123

**ACE PLASTIC BALLS**
*add quality and utility*
**to hundreds of products**
Completely Seamless—Precision Fabricated to order.

ACE PLASTIC BALL employed as valve seating in float valve

Variety of plastic materials
Wide variety of colors
Complete facilities for fabricating plastic parts for all industries.
Estimates submitted promptly upon receipt of your blueprints or specifications.
*Write today for Bulletin and Samples.*

**ACE PLASTIC COMPANY**
*Precision Plastic Fabricators and Extruders*
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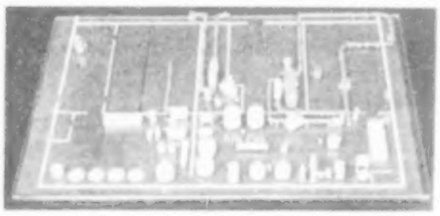
IEN-9124

## PLANNING BOARDS FOR "VISUAL" OR "TEMPLET" LAYOUT



"VISUAL" PLANNING EQUIPMENT CO., INC.
PENNSYLVANIA AVENUE — OAKMONT (ALLEG. CO.), PA.

IEN-9125

## TIMING . . Duplex interval assembly for automatic sequencing operation

Source: R. W. CRAMER CO.
49 Saybrook Ave., Centerbrook, Conn.

IEN-9126

## PRESS . . Pneumatic attachment prevents damage due to overloading

Source: CLEARING MACHINE CORP.
6491 W. 65th St., Chicago 38, Ill.

IEN-9127

# FREE PURCHASING GUIDE
(THOMAS' REGISTER, JR.)

3400 pages (11 x 16) containing 100,000 product listings of advertisers in the forthcoming edition of THOMAS' REGISTER of American Manufacturers.

"Jr." is an advance-of-publication auxiliary to the regular THOMAS' REGISTER's 7000 pages (9 x 14) which lists all makers of all products.

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**THOMAS PUBLISHING COMPANY**
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1.

2.

PRATT & WHITNEY
MACHINE TOOLS • CUTTING TOOLS • GAGES
90th Year
SYMBOL OF ACCURACY SINCE 1860

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**BAKELITE BCU-22 Liquid Urea Resin is now being shipped in tank cars anywhere in the United States at 7½¢ a pound!**

**Bakelite Urea RESINS**
BAKELITE DIVISION

IEN-9131

**Everything this ball bearing has** you can get in FAFNIR Ball Bearings this small

**FAFNIR**
BALL BEARINGS

IEN-9132

**UNIVERSAL INDUSTRIAL CONVEYOR**
*Low First Cost . . . . Low Maintenance*

- Remarkable ease to propel, handling large cartons or parts.
- Motor totally enclosed, ample conveyor body easily assembled through removable reinforcing panel.
- Electric or digital hours, with simple lubrication mechanism.
- Driven by motor of 1/60 (then 1/6 safety horsepower geared box.
- Made from shaft, and other parts available and double-sealed ball bearing.
- Standard belt width, 12 inches, other widths can be furnished to meet your requirements.
- Belt speed, 74 F.P.M., adjustable if desired.

**INDUSTRIAL ENGINEERING & MFG. CO., INC.**
SHIPSHEWANA, INDIANA, U.S.A.

IEN-9133

# First Chuck Advance In 50 YEARS!!!

*Buck* CHUCKS

1
2
3
4

BUCK TOOL CO., 916 Schippers Lane, Kalamazoo, Mich.

IEN-9134

**TACHOMETER . . Time controlled unit reads rpm. based on 6-second interval**

Source: TECHNICAL OIL TOOL CORP.
1056 N. La Brea Ave., Los Angeles 38, Calif.

IEN-9135

**DRIVE . . Variable speed transmission holds tension constant in winding work**

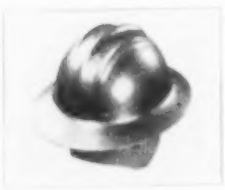
Source: TWIN DISC CLUTCH CO.
1401 Racine St., Racine, Wis.

Correct information is in Twin Disc Bulletin 161

IEN-9136

**PROTECTING . . Aluminum safety hat ribbed design for impact resistance**

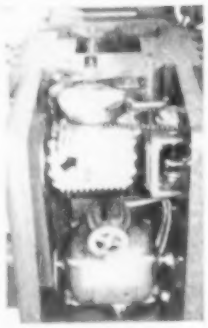
Source: E. D. BULLARD CO.
273-77 Eighth St., San Francisco 3, Calif.



All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

IEN-9137

**Compact Standard Reducers Cut Cost of Machine Drives**



Made possible by the high load carrying capacity and extreme compactness of doubly enveloping Cone-Drive gearing, the use of standard stock Cone-Drive reducers instead of built in gearing does away with special gear designing and bearing calculations, plus the necessary machining of castings, assembling of gears, shafts, bearings, etc.

Another way in which Cone-Drive gears give you a lower machine drive cost per horsepower.

CONE-DRIVE GEARS

IEN-9138

Exclusive welded-stator construction gives increased ruggedness and electrical efficiency to the Delco Appliance

**RIGIDFRAME Motor**

Let Delco Appliance engineers adapt this revolutionary motor for the appliances you manufacture!

DELCO APPLIANCE DIVISION, Dept. IEN-9,
General Motors Corp., Rochester, N. Y.

IEN-9139

*HOW* to put the Indian sign on glove costs

SURESEAL Pk COATED WORK GLOVES

THE SURETY RUBBER CO.

IEN-9140

**Pheoll CAP SCREWS Meet All Requirements For Simple Hand and High Cycle Wrenching**

OTHER PHEOLL PRODUCTS INCLUDE

Pheoll
NEWALL TOOL COMPANY • Dept. Pheoll, Chicago 50, Illinois
Dedicated Fasteners and Holding Devices

# "I WISH I HAD"


IEN-9141

MARVEL No. 8, Capacity 18" x 18"

There is no other sawing machine like it. The work remains stationary. The blade is guided with a 90° twist and power fed vertically through the work. The saw blade and column can be instantly swung and clamped at any angle to 45° either right or left from vertical for miter cutting.

The number 8 MARVEL saw will handle the smallest, as well as the largest work up to 18" x 18". It will cut-off, trim, miter, notch, and split all bar stock, pipe, structural sections, moulding, tubing, or irregular shapes.

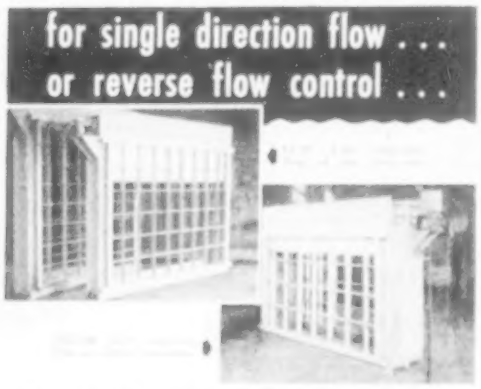
Write for our catalog, containing valuable information, enabling you to select a metal saw best suited to your work.

MARVEL SAWS

ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U. S. A.

IEN-9142

IEN-9143




HEACON DAMPERS handle both!

HEACON

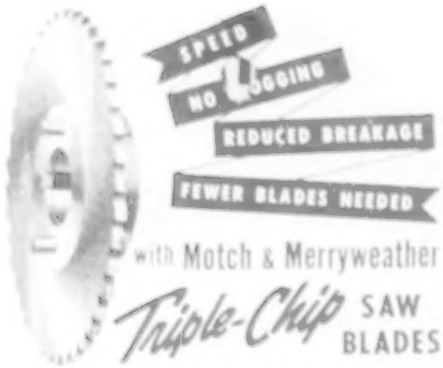
THE THERMIX CORPORATION
Greenwich, Conn.

IEN-9144

step up production – cut down handling costs

WISSCO METAL PROCESSING BELTS

IEN-9145



THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING CLEVELAND 13, OHIO

IEN-9146

ONE OF A LINE of GUARDIAN CONTROLS for INDUSTRIAL and AIRCRAFT Applications

Write

GUARDIAN ELECTRIC
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You benefit
4 ways with
Wells Saws

1. Fast, continuous cutting action.
2. Greater accuracy on each job.
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4. Greater overall economy.

Wells

METAL CUTTING BAND SAWS

SEPTEMBER 1950

# INDEX TO ALL PRODUCTS

## How to find what you need:

**Leaf through the issue** ...

**Next use this index** ...

**Now take one subject** ...

**If you have trouble** ...

A

B

C

D

E

F

G

H

I


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Genuine Alemite

foot operated pump...

- Holds 25 lbs. of grease!
- Builds up to 8,000 lbs. pressure!
- 6 foot hose with hydraulic coupling!

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Industrial Lubrication Equipment

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LAST LONGER...MARK BETTER

7 REASONS WHY:

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IN PRESSURE LUBRICATION

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FOR FUEL OR LIQUID TRANSFER

TUTHILL PUMP COMPANY

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Electrically Heated Industrial Equipment

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*For Faster Material Handling*

MB INDUSTRIAL MARKER

# AND SERVICES IN THIS ISSUE

SEPTEMBER 1950

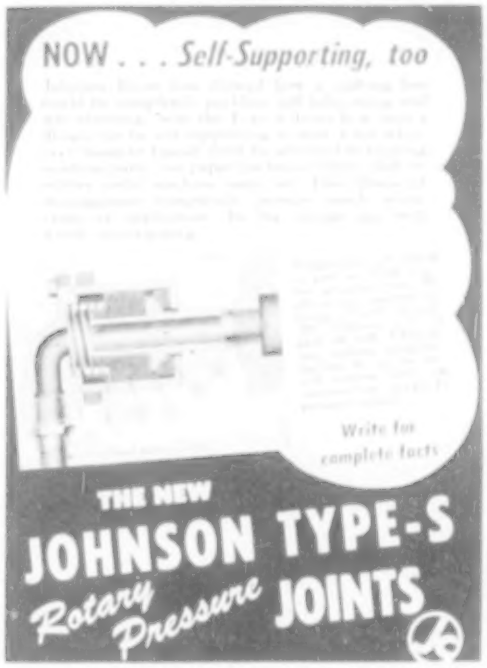

CREDIT—Inquiries to IEN-9154 if you write the maker

CREDIT—Inquiries to IEN-9155 if you write the maker

CREDIT—Inquiries to IEN-9156 if you write the maker

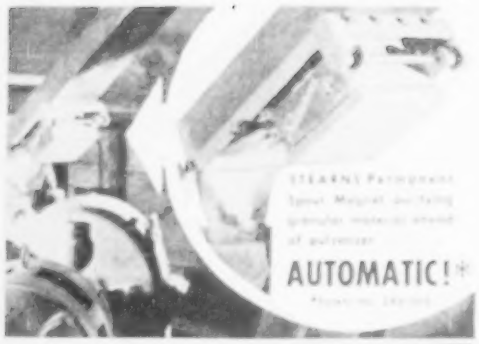
CREDIT—Inquiries to IEN-9157 if you write the maker

CREDIT—Inquiries to IEN-9158 if you write the maker




CREDIT—Inquiries to IEN-9159 if you write the maker

IEN-9160

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STEARNS Permanent Magnet with Automatic Tramp Iron Discharge* eliminates all tramp iron from your products continuously and without any operating or maintenance expense. Purify your products, protect expensive machinery the STEARNS way. Complete tramp iron removal with less loss of material. May Elim. A. Hoing.

THE ONLY PERMANENT SPOUT MAGNET THAT CLEANS itself.

Stearns MAGNETIC MANUFACTURING CO.
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**ALVEY-FERGUSON**
Since 1901 with its complete organization

THE ALVEY-FERGUSON COMPANY 247 FIDNEY ST., CINCINNATI 5, OHIO
Offices & Representatives in Principal Cities

IEN-9162

**WILLSON**
APPROVED
Universal Gas Mask

WILLSON

WILLSON PRODUCTS, INC. 217 WASHINGTON ST., READING, PA.

"I Wish I Had" — see page 109

IEN-9163

**DUST COLLECTING . . Filter panel, glass filaments in fiberboard casing**

Source: AMERICAN AIR FILTER CO.
125 Central Ave., Louisville 8, Ky.

IEN-9164

**FASTENING . . Spring anchor fitting to handle trailing electric cable**

Source: MOSEBACH ELECTRIC & SUPPLY CO.
1161 Arlington Ave., Pittsburgh 7, Pa.

IEN-9165

LYON-Raymond
Hydraulically Operated
Sheet and Strip Feeding Table

LYON-Raymond CORPORATION
3591 Robison St.
GREENE, N. Y.

IEN-9166

IEN-9167

**MEASURE**
*faster-easier*
**with**
**STANLEY RULES**

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FIRE-RESISTANT • RESILIENT • QUIET
SUPERIOR • SANITARY

15c per square foot

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